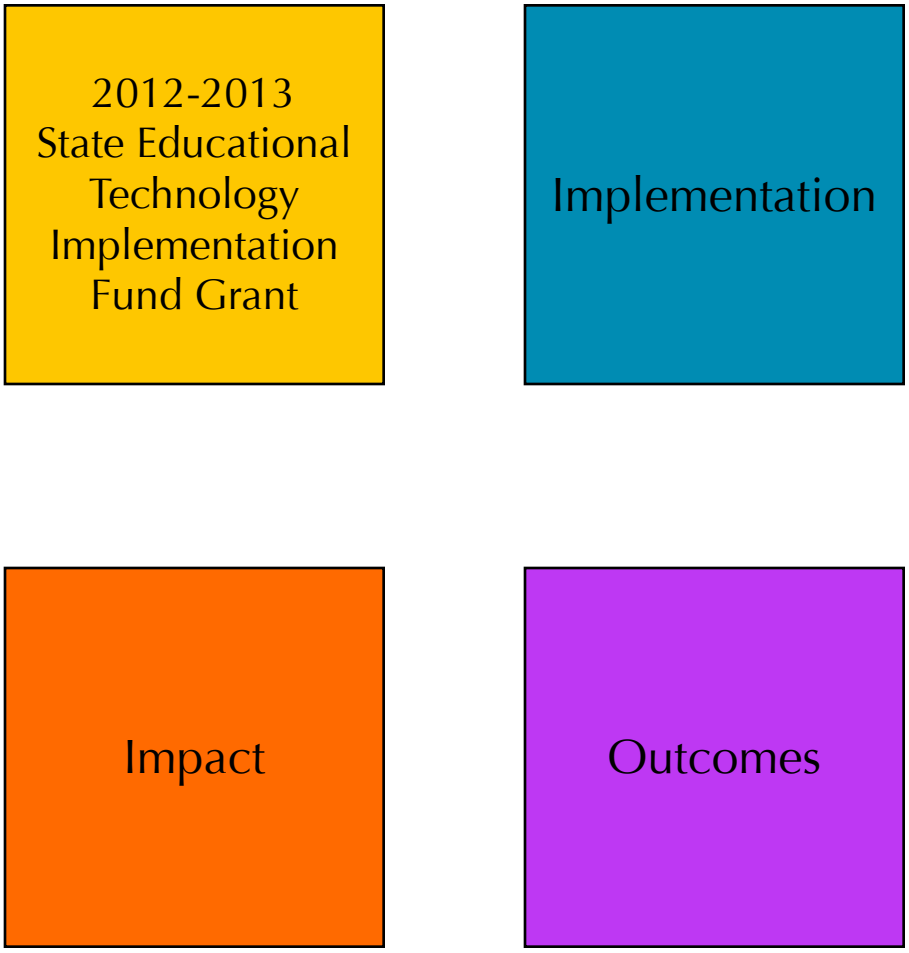

Final Report

August 2013

Prepared by Wexford, Inc.

Second Year Evaluation of the 2012-13 State Educational Technology Implementation Fund Grant

Submitted to: **Nevada Department of Education and Nevada Commission on Educational Technology**

Submitted by: **Wexford, Inc.**

August 28, 2013

Wexford, Inc. is a non-profit education agency that conducts research and evaluation and provides strategic planning and professional development services to support PreK-20 initiatives. Wexford is experienced in the delivery of services to clients across the educational spectrum, from small schools to complex and diverse urban districts, regional agencies, state departments of education, colleges and universities, and the U.S. Department of Education.

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Executive Summary

The Nevada State Educational Technology Implementation Fund Grant, totaling over $3.5 million for Fiscal Years 2012-2013, was awarded to 16 of the state's 17 school districts. Elko County received two grants, and Eureka County did not submit an application. The funding priorities for the grant included a focus on Common Core State Standards, Smarter Balanced Assessment, and/or Growth Model. To address these priorities, districts proposed to invest in school and district-wide infrastructure; replace outdated student and teacher computers in both classrooms and computer labs; create mobile computing labs and implement 1:1 netbook, tablet, iPod and iPad projects; build capacity for videoconferencing capabilities to relieve time and cost burdens associated with providing professional development to teachers in remote locations, as well as facilitate collaboration between cross-site professional learning communities; and develop online professional development courses and modules to support teachers' understanding and implementation of the Common Core State Standards. Highlights from the Year 2 implementation of the State Educational Technology Implementation Fund Grant include the following:

- Six of the 16 funded school districts implemented or continued to support 1:1 projects either with netbook computers, iPads, iPods, or android devices
  - Elko County's 1:1 iPad project serves as an exemplar for other districts primarily for its comprehensive "wrap around" approach to the project that provides sufficient technical and professional development support for participants and includes a well implemented evaluation component that is linked to the professional development
  - Lyon County experienced a series of setbacks to its 1:1 netbook project implementation, but remained resilient and steadfast in ensuring that students and teachers at Fernley Intermediate School had computers and used them in the classroom. A major focus of the project was on improving student writing. While there are some caveats to interpreting the comparison of students' Writing Assessment scores, the district showed a 97 percent increase in the percentage of 5th grade students who tested proficient on the exam in 2013 (67%) compared to the percentage who tested proficient in 2012 (34%).
- New computers installed in Carson City, Churchill County, Humboldt County, and Mineral County, created capacity that had not previously existed for these districts to administer online student formative and accountability assessments

- Elko County's e4e project provided online professional development to 878 teachers across the state; five of the 29 courses offered were developed with funds from the State Educational Technology Implementation Fund grant
- Clark County launched BLAST (Bringing Learning and Standards Together) and developed 58 elementary and mathematics online professional development modules to support teachers' implementation of the Common Core State Standards.
  - There have been over 6,000 unique visits to the BLAST website
  - Thousands of teachers have used the modules for individualized, self-paced professional development, and a cohort of nearly 300 teachers utilized the modules in their professional learning community groups
- Nye County, Washoe County and White Pine County utilized early adopters to establish the foundation for how they will use their respective grant-funded video and web conferencing systems. In all three districts, though to varying degrees, the equipment was used to provide professional development to teachers in remote locations, as well as facilitate planning meetings. Nye County also used its Adobe Connect system to provide parent training. Feedback from teachers who participated in these sessions shows vary positive outcomes, including:
  - 92% of video/web conference participants feel that participating in the session was a good use of their time
  - 90% of video/web conference participants feel that their session facilitator actively engaged all participating sites
  - 90% of video/web conference participants feel that they benefitted from connecting with other teachers in their district
  - 88% of video/web conference participants reported that they felt comfortable actively participating in the sessions
  - 79% of video/web conferencing participants feel that the session provided them with an opportunity to receive Common Core State Standards-related professional development that they would not otherwise have
- The State Educational Technology Implementation Fund grant continued to support Washoe County's ActiveBoard training program by providing funds for trainer stipends. Doing so contributed to the following outcomes:
  - 253 teachers participated in ActivBoard Academy (1.5 hour training sessions)

- 123 teachers attended one of five 8-hour ActiveBoard Core Essentials training sessions
- 25 teachers attended a two-day (16 hour) ActivBoard Intermediate training session

❖ Nearly 600 teachers across the state completed the Wexford-developed Nevada Teacher Technology Survey. Findings from the survey data include:

- Only 37% of teachers are satisfied with the level of technology-related professional development they receive
- Only 33% of teachers are satisfied with the opportunities they have for peer collaboration related to the integration of technology into the classroom
- 55% of teaches are satisfied with the level of administrative support they receive to explore innovative uses of technology
- 56% of teachers reported using their grant-funded technology three or more times per week; a total of 74% use their grant-funded technology at least once per week
- 68% of teachers reported that at least once per week their students are using technology as an instructional tool; however, 43% of teachers also reported that their students had not yet used technology "to create something" and 58% reported that their students had not yet used technology "to collaborate with other students"

❖ Over 2000 elementary, middle school/junior high, and high school students completed the Wexford-developed Nevada Student Technology Survey. Findings from the survey data include:

- Most students (53%) self-rate their technology skills as "average," but girls are more likely to do so than boys. This means more boys and fewer girls are rating their skills as above average or advanced. The most striking difference is among secondary students where our analysis of the data indicated a statistically significant difference between the 52 percent of boys compared to 30 percent of girls who rated their skills as above average or advanced.
- 54% of students reported using technology at least once or twice per week and 41% reported using technology three to five days per week.
- 59% of elementary students and 82% of secondary students are satisfied with how technology is used at their school

Recommendations

Taking into account the multiple data points that we have gathered in conducting the evaluation of the FY12-FY13 State Educational Technology Fund Implementation grant, the following recommendations are presented for consideration by the Nevada Department of Education and Nevada's Commission on Educational Technology:

- Technology-related teacher professional development remains a need that district's struggle to meet. In the interest of supporting teachers' implementation of technology, as guided by the Common Core State Standards, consider requiring that grantees allocate a certain percentage of their grant funds to support this professional development. Wexford made this recommendation in the final report of the FY10-FY11 grant and still considers it an important and relevant recommendation.
- Many of the state's rural districts do not have the human resource capacity to roll out their projects in a timely manner. Unforeseen delays not withstanding, small, rural districts spend an inordinate amount of time deploying their equipment to schools (on average 15 weeks as discussed in the Interim Report). This is primarily due to limited availability of staff to image the computers, but includes other factors as well. In light of this ongoing situation, consider funding (partially or fully) technical support positions that districts write into their grant proposals. Include guidelines in the RFP that clarify the extent to which such positions can be funded with SETIF monies.
- The two-year funding cycle of the State Educational Technology Implementation Fund grants does not equate with two full years of project implementation. Given that most districts do not begin to fully implement their projects until Year 2, consider extending the second year implementation period beyond the end of the fiscal year. Districts could apply for the extension 90 days before the end of the fiscal year in which the grant is scheduled to end. In so doing, the Commission could require districts to provide a full accounting of the status of their proposed project activities as well as plans to complete the work and evaluate the outcomes.
- Through interviews with project directors, Wexford became aware that there is a wealth of knowledge across the state that seems to be untapped. Essentially, many project directors are not communicating with each other and are missing out on opportunities to save time and potentially money by tapping into the group's collective knowledge, experience, and lessons learned. To facilitate this untapped resource, consider

supporting grantees through online social media, such as Edmodo, to create a space for shared learning and collaboration.

- Districts have varying degrees of knowledge about how to set up accountability measures for their grants and, as such, many lack sufficient data to report on how the technology in which they have invested is being used in schools. Given the budget for the statewide evaluation of this grant, an external evaluator will only collect summary and snapshot data, but project directors should have ongoing knowledge of when and how the grant-funded technology is being used. To support districts' capacity for data collection and accountability reporting among its participating schools, consider hosting a post-award professional development webinar for project directors. Also consider maintaining a website of resources that include templates for data collection and reporting.

INTRODUCTION

State Educational Technology Implementation Fund Grant

The FY2012-FY2013 funding cycle for the Nevada State Educational Technology Implementation Fund includes 17 grant awards totaling $3.6M. Grants were awarded to 16 of the state's school districts, with Elko County receiving two grants (one awarded to support implementation of a 1:1 iPad project and the other to support training and course development through the eLearning for Educators, or e4e program). Eureka County School District did not submit a grant proposal. Three of the funded districts (Esmeralda County, Lander County, and Elko County's eLearning for Educators project) received one-year grants; the other 14 grantees received two-year awards. Districts took various approaches to utilizing the grant funds toward meeting the absolute priority of supporting the implementation of Nevada's Common Core State Standards. Specifically, districts used their grant awards to invest in:

- Upgrading infrastructure to help establish fast and stable computing environments as well as build capacity for online assessments;
- Developing professional development modules to increase teachers' understanding of the CCSS;
- Purchasing videoconferencing equipment to facilitate intra-district professional development around CCSS; and
- Computing and other technology devices including laptops, desktop computers, tablets, thin clients, iPods, iPads, and interactive whiteboards to enhance teaching and learning.

During FY12 and FY13, the Nevada State Educational Technology Implementation Fund (SETIF) grant had a direct or indirect impact on over 400 schools, nearly 3500 teachers, and 335,00 students. It should be noted that the student impact numbers are skewed by the nearly 310,000 students in Clark County School District, as grant funds were used to replace proxy servers that affect computing across the entire district. We define a "direct impact" as one in which technology hardware and/or software was put directly into the hands of teachers and students for classroom or computer lab use. Indirect impact refers to teachers and students benefitting from investments in school or district wide infrastructure (i.e., Clark County's investment in proxy servers or Douglas County's investment in wireless access points) or students benefitting instructionally as a result of their teachers participating in grant-funded professional development.

INTRODUCTION

Table 1. Awarded Grant Funds and Project Acquisitions by District

District	Final Award	Acquisition/Expenditures
Carson City	$206,459	• Desktop computers for school labs
Clark County	$1,537,711	• Facilitators to develop online CCSS PD modules • Proxy servers • TeacherLine tuition reimbursement and "seat fees"
Churchill	$77,000	• Thin clients
Douglas	$212,819	• Wireless Access Points for entire district
Elko 1:1	$209,631	• iPads for English and Math teachers
Elko e4e	$64,995	• eLearning for Educators (e4e) Online Course Development Training
Esmeralda	$22,760	• District Network Communications System Upgrade
Humboldt	$74,808	• Laptop computers
Lander	$21,749	• Network switch • Desktop Computers for one Junior High School
Lincoln	$25,741	• Part-time Computer Technician • LanSchool software
Lyon	$225,618	• 1:1 netbooks with laptop connect cards
Mineral	$95,930	• Desktop computers for school labs
Nye	$58,632	• SMART Boards w/ Installation • Webcams/Wireless Headsets • Laptop
Pershing	$50,250	• iPod Touch/iPads/Sync Cart • Vouchers for Apps
Storey	$28,854	• Kunos Android Tablets, software, and 1-day training
Washoe	$688,232	• 10-pack iPad sets • Polycom videoconferencing • Training Stipends
White Pine	$73,293	• Teacher/Staff laptops • Student iPads • Projectors • Mimio Interactive Whiteboards • Webcams

INTRODUCTION

Outline of the Final Report

This report is divided into four parts. Part One is an overview of the Year 2 data collection; Part Two describes districts' FY13 implementation of the State Educational Technology Implementation Fund (SETIF) Grant; Part Three of the report provides a summary of project impact across districts; and Part Four is a summary of student outcomes for districts that provided student achievement data.

Part One: Data Collection

Data collection in Year 2 of the FY12-FY13 State Educational Technology Implementation Fund Grant included administering surveys to teachers and students, conducting face-to-face and telephone interviews with project directors, using online questionnaires to gather project implementation data from project directors, conducting site visits in Elko County, Lyon County, Nye County, and Washoe County, and gathering student outcome data from five districts.

Project Director Questionnaire & Interview

Year 2 Project Implementation Status Questionnaire

In January 2013 Wexford evaluators administered tailored questionnaires to all 17 project directors to gather information about the status of their Year 2 grant implementation. The questionnaire included items specific to each district's grant focus as well as standardized questions intended to document any problems related to project implementation, use of grant funds, and, where applicable, capture a summary of teacher professional development to-date. Wexford used the data collected from this questionnaire to establish a timeline for administering teacher and student surveys as well as schedule site visits in spring 2013.

Project Director End-of-Grant Interview

Beginning in March 2013 and continuing through June 2013, Wexford conducted telephone or face-to-face interviews with 16 of 17 project directors. We were unsuccessful in reaching Lander County's Superintendent by phone or email to schedule an interview. The Superintendent did, however, respond to the Project Implementation Questionnaire. A standardized interview protocol was used to gather data on project directors' satisfaction with grant implementation, document setbacks to implementation, identify lessons learned, capture project directors' thoughts on the extent to which they felt they had utilized grant funds to support the implementation of the Common Core State Standards, identify notable outcomes of the grant, document the extent to which districts will be able to sustain their projects, and identify their concerns about documenting student outcomes and linking those outcomes to the implementation of their grant. Interviews lasted between 30 to 60 minutes and sometimes included more than one district staff person associated with implementing the grant.

Teacher Surveys

Nevada Teacher Technology Survey

Wexford developed and administered the Nevada Teacher Technology Survey to teachers in 14 school districts. A total of 696 school personnel responded to the survey. Teachers excluded from the survey included those in Clark County, some in Elko County, and Storey County School District. Teachers in Clark County were excluded because Wexford developed a more applicable survey that was administered to teachers who had utilized the district's online professional development BLAST Modules. Teachers who participated in Elko County's 1:1 iPad initiative completed the Teacher Technology Survey, but teachers who participated in the district's e4e online professional development responded to a separate online PD feedback survey. Teachers in Storey County were not included in the Teacher Technology Survey data collection because the number of grant participants was too low to warrant gathering data that could be used to make generalizations about teacher technology use in the district.

Videoconference Feedback Survey

In September 2012, Wexford developed an online survey for Washoe County to capture feedback data from presenters and participants who used the district's grant-funded point-to-point videoconferencing equipment. The survey remained active on SurveyMonkey for the duration of the 2012-13 school year. Between November 2012 and March 2013, 51 Washoe County district staff responded to the survey. Questions from this survey were also used to gather feedback from teachers in Nye County and White Pine County. A total of 91 people in all three districts responded to the survey.

Elko County e4e Online PD Feedback Survey

In March 2013, Wexford administered an online feedback survey to school personnel who had completed a winter 2013 eLearning for Educators (e4e) course offered by Elko County. A total of 86 people, representing nine school districts across the state of Nevada, completed the survey. A survey was not administered to spring 2013 course takers, because the courses were not completed at the time Wexford wrapped up its data collection for this report.

Clark County BLAST Module Feedback Survey

In March 2013 Wexford administered a pilot feedback survey to teachers who had utilized the district's BLAST Modules for online Common Core State Standards professional development. Twenty eight teachers responded to the survey, providing sufficient data for the project director and course developers to agree to using the survey to gather feedback from a cohort of

teachers who, in April and May 2013, were utilizing the BLAST modules in structured professional development sessions through their site-based professional learning communities. In May 2013, the survey was administered to 272 educators, 161 of whom completed it.

Student Surveys

Wexford use the Project Implementation Questionnaire to find out which districts wanted to gather survey data from students. Based on the results of our questionnaire, we developed online and paper surveys for students in Churchill County, Elko County, Esmeralda County, Lincoln County, Lyon County, Mineral County, and Washoe County. A paper version of the survey was administered to elementary students in Churchill County, Elko County, and Lyon County. Middle school/junior high and high school students in Churchill County, Elko County, Esmeralda County, Lincoln County, Mineral County, and Washoe County completed the online version of the survey. Two cohorts of students in Washoe County completed surveys; one was a group of primarily middle school students who provided feedback on the use of interactive whiteboards in their classroom, and the other group included middle school and high school students who were in classrooms that received grant-funded iPads. A total of 2,497 students completed the Nevada Student Technology Survey.

Teacher Interviews/Classroom Observations

Wexford conducted site visits with teachers in Elko County, Lyon County, Nye County, and Washoe County. The Elko, Nye, and Washoe County site visits occurred in April 2013 and the Lyon County site visit occurred in May 2013. In total, 28 teachers participated in either individual or focus group interviews. Observations of students' and teachers' use of technology took place in 10 classrooms. An evaluator also conducted face-to-face interviews with Clark County's BLAST Module project facilitators in June 2013 and accessed a Nye County Adobe Connect session to remotely observe a video-conferenced enabled professional development session.

Table 2. Interviews and Observations by District

District	Staff	Project Focus
Clark County	• BLAST project facilitators	Module development
Elko County	• School Counselor • 4th Grade Teacher	e4e Course
	• 7 mathematics teachers in focus group session • 5 ELA teachers in focus group session • 7 classroom observations across content areas	iPad
Lyon County	• 8 teacher interviews • 1 classroom observation	1:1 netbook
Nye County	• Observed face-to-face teacher professional development • Remotely observed video conference professional development session • 1 interview with remote PD facilitator	Videoconferencing
Washoe County	• 1 K-12 teacher • 1 HS principal	Videoconferencing
	• 2 teacher interviews • 2 classroom observations	ActivBoard
	• 4 teacher interviews	iPad

MAP Assessment Data

Five of the 16 school districts decided to use Northwest Evaluation Association (NWEA) Measure of Academic Progress (MAP) assessment data as an outcome measure associated with their SETIF grant. MAP assessments are computer-based adaptive and standards-aligned assessments that districts administer two to three times during the school year. MAP includes assessments for primary grades (K-2) in reading and mathematics; science assessments through grade 10; and reading, mathematics, and language usage assessments through grade 10. For the purposes of reporting outcome data for the SETIF Grant, Wexford is reporting mean growth and mean percent proficient in reading and mathematics for the applicable grade levels.

Additional Data

The additional data to which Wexford had access, as provided by project directors, is shown in Table 3, below.

Table 3. Additional Data Provided by School Districts

District	Data Type
Carson City	• Computer lab sign up sheets
Clark County	• Google Analytics for BLAST Module website • Results of module-embedded feedback survey
Churchill	• 5th and 8th grade Writing Assessment performance
Elko 1:1	• Teacher Observation and Technology Integration Indicators • Teacher evaluations of 1:1 project
Elko e4e	• Course feedback survey data
Humboldt	• A+ Learning Usage Data • A+ Learning Link Assessment Data for Grade 3 and Grade 4
Lyon	• 5th grade Nevada State Writing Assessment performance
Washoe	• Summary of Videoconference Professional Development Sessions and Attendance • Logs of Videoconference Use by school site • Summary of Activboard Academy Sessions and Attendance

Part Two: Implementation

Six categories emerge when looking at the projects funded by the grant. These include supporting district-wide infrastructure (Clark County, Douglas County, Esmeralda County, and Lander County); replacing desktop and laptop computers (Carson City, Churchill County, Humboldt County, and Mineral County); supporting 1:1 netbook initiatives (Lincoln County and Lyon County); investing in video/web conferencing to support teacher professional development (Nye County, Washoe County, and White Pine County); providing face-to-face (Washoe County) and online teacher professional development (Clark County and Elko County); and supporting instructional use of iPads and other handheld devices (Elko County, Pershing County, Storey County, Washoe County, and White Pine County). The six categories are used to frame the discussion of the impact of the projects, which appears in Part Three of the report.

Figure 1. District Implementation by Project Focus

Project Focus	District
Infrastructure	• Douglas County • Esmeralda County • Lander County
Desktop/Laptop Computing	• Carson City • Churchill County • Humboldt County • Mineral County
1:1 Netbook Computing	• Lincoln County • Lyon County
iPads/Handheld Devices	• Elko County • Pershing County • Storey County • Washoe County • White Pine County
Video/Web Conferencing	• Nye County • Washoe County • White Pine County
Teacher Professional Development	• Clark County (online) • Elko County (online) • Washoe County (face-to-face)

IMPLEMENTATION

Overview of Districts' Project Implementation

This section of the report includes an overview of each district's project implementation and a summary of project director's reflections on implementing the grant including their satisfaction with the project implementation, setbacks to project implementation, and lessons learned.

Carson City

- Purchased 248 computers and Microsoft Office for all computers
- Computers placed in three elementary schools, two middle schools, and one high school
- Computers were used for NWEA MAP testing

Churchill County

- Installed thin clients in computer labs at three elementary schools and the district's middle school.
- Thin clients not used instructionally for the full 2012-2013 school year because there was a delay in the Year 2 purchase of devices. Thin clients purchased in Year 1 were not compatible with the district's network so testing needed to be done before making a decision on the Year 2 order.
- Full installation completed by April 2013 in time for all 5th and 8th graders to use them for the Nevada State Writing Assessment

Clark County

- Launched BLAST (Bringing Learning and Standards Together) online professional development to support elementary and mathematics teachers' implementation of the Common Core State Standards
- Developed 34 modules for elementary mathematics and 24 modules for middle school mathematics
- Provided face-to-face and online support for a cohort of 270 teachers implementing Modules as part of their PLC
- Paid VegasPBS "seat fees" and reimbursed TeacherLine tuition for 78 teachers in FY12 and 220 teachers in FY13
- All teachers who completed TeacherLine courses contributed a lesson to CCSD's Wiki-teacher site
- Purchased two active and one cold proxy server that support the entire district

IMPLEMENTATION

Douglas County

- Provided or improved wireless computing for the entire district by installing Wireless Access Points at all 11 schools (7 elementary schools, 2 middle schools, and 2 high schools)
- The investment resulted in greater wireless coverage, faster network access, and more efficient network security

Elko County: 1:1 iPad

- Implemented a 1:1 iPad project with 10 mathematics and 14 English teachers in 9 schools that include 1 elementary school, 3 middle schools, and 5 high schools
- Conducted multiple classroom observations to document teachers' use of the iPads and level of technology integration using the Technology Integration Matrix
- Beginning in June 2012 and ending in May 2013, provided teachers with 14 professional development sessions. This training supported grant implementation, but was not funded by the SETIF grant

Elko County: eLearning for Educators (e4e)

- Supported teachers' online professional development with 29 course offerings between Fall 2012 through Summer 2013
- During FY12-FY13, 878 teachers, representing all 17 of Nevada's school districts, took an e4e course. Participation ranged from one teacher in a handful of districts to as many as 153 teachers in Clark County, 223 in Elko County, and 263 in Washoe County
- The e4e team developed five of the courses offered during the grant period:
    - Math Connections: Integrating Common Core Mathematical Practices (developed FY12, offered FY13)
    - Common Core ELA and the 6 Instructional Shifts (developed FY12, offered FY13)
    - Flipped Learning (developed/offered FY13)
    - 21st Century Skill: System Thinkings for the Layman (developed/offered FY13)
    - Integrating Content Across Disciplines: Focusing on Developing Project-Based STEM Unit Plans (developed/offered FY13)

IMPLEMENTATION

Esmeralda County

- Purchased equipment to upgrade district-wide network communication system in FY12
- Implementation did not occur during the two-year grant period due to unforeseen and cost-prohibitive infrastructure issues
    - Prior to implementation, AT&T, the contracted vendor, informed the district that the wiring required to make the connection to the district was damaged and the vendor requested that the district pay $250K to make the repair in order to move ahead
- Spent the better part of 2012-13 school year looking for a vendor who could convert the district to a wireless network
    - Selected WestNet, with plans to meet with the vendor in June 2013 and complete upgrade by July 1, 2013 in time to apply for new eRate funding

Humboldt County

- Purchased 255 student laptops for 3 elementary schools and 1 middle school
- Initially configured laptops into “mini mobile labs” of 10 laptops per cart, but found that the lab remained with one teacher who was a primary user, rather than being shared across classrooms. In FY13 they were redistributed so that each classroom received 5 laptops, with the ability to use the laptop carts to recreate the mobile lab as needed
- Increased access to computers facilitated the continued use of A+ Learning across grade levels. All 3rd and 4th graders utilized A+LearningLink, an online formative assessment program that tests knowledge in English and mathematics.

Lander County

- Purchased 36 computers at Battle Mountain JH and installed a switch to connect the computers to the district network
- The computer lab is used three times per week for regularly scheduled computer classes and teams of mathematics and English teachers use the labs the other two days per week

IMPLEMENTATION

Lincoln County

- FY10-FY11 SETIF grant money seeded the implementation of Lincoln County School District's 1:1 netbook initiative. Starting with 1:1 in 7th and 8th grade, during FY12-FY13, the project expanded into 4th -12th grade.
- To support the expansion of its 1:1 initiative, the district used FY12-FY13 funds to pay a part-time computer technician to provide the technical support that the Technology Integration Specialists and other district staff had provided during the initial launch of the project
- Providing dedicated technical support to teachers, made it possible for the Technology Integration Specialists to support teachers' instructional use of technology

Lyon County

- Rolled out a 1:1 netbook initiative at Fernley Intermediate School utilizing cellular service from their contracted vendor, AT&T, for Internet connectivity
- Purchased 600 netbook computers that due to an unforeseen supply issue with their vendor were not received until June 2012
    - Only 12 computers were received in spring 2012 for testing of software that was to be imaged on all computers
- Implementation plagued by a series of circumstances that were beyond the district's control
    - Poor connectivity in some of the buildings due to concrete and metal walls, despite assurance from AT&T that the cell service could support 400 of the 600 computers online at any given time
    - Problems using installed software and difficulty dealing with AT&T subcontracted vendor to get the issue resolved. A good amount of time was spent troubleshooting this issue and ultimately it was determined that all 600 computers needed to be re-imaged, which further delayed implementation
    - Interrupted eRate service, resulted in loss of Internet connectivity for most of the 2012-13 school year. Despite efforts to do so, following the death of the contractor with whom the school was working to complete its eRate application, the application could not be submitted on time and funding was lost. The school has been credited for unused funds that will roll over into the 2013-14 school year
- Despite these setbacks, the principal, staff, and students were resilient and steadfast in their efforts to use the netbooks, and continued to use them on a regular basis to support student learning across content areas

IMPLEMENTATION

Mineral County

- Purchased 71 workstations that replaced computers in the labs at all three of the district's schools
- Replaced 19 teacher computers
- The new workstations provided a reliable computing environment that allowed the district to conduct its MAP and STAR testing and increase teacher productivity

Nye County

- Established a district-wide web conferencing system using SMART Boards and Adobe Connect software to support multi-site/collaborative professional development as well as single-site professional development for the district's most remote schools
- Tests of the equipment and software indicated sufficient bandwidth to conduct two-way video/two-way audio with multi-site connections, but upon implementation there were some connectivity problems with the district's most remote site (Gabbs)
- Despite some initial problems with the software that delayed utilizing Adobe Connect, the district logged over 75 hours of total meeting minutes, which included testing connections, hosting professional development planning meetings, and conducting professional development for parents and teachers

Pershing County

- Purchased a set of 20 iPods for each 1st and 2nd grade classroom and a total of 52 iPads for two 3rd grade classrooms
- The iPod purchase expanded the district's implementation of iPods with their FY10-FY11 SETIF grant and the devices were used during both years of the FY12-FY13 grant
- Third grade teachers began using the iPads in the spring of 2013.

Storey County

- Purchased 25 Kunos android devices and the associated Curriculum Loft cloud-based content delivery system that allows teachers to develop lessons that are aligned with the Common Core State Standards and can be downloaded to the devices
- In FY12 the devices were rolled out in spring 2012 and used by one 5th grade teacher, but were moved over to support 6th-8th grade language arts during FY13

IMPLEMENTATION

Washoe County

- Continued to support its Activboard training program. Over 250 teachers participated in the Activboard Academy, which provided 31 1.5 hour sessions from February to May 2013. The SETIF grant supported stipends for three Activboard trainers. In addition to the Activboard Academy, the district offered five 8 hour Activboard Core Essentials training sessions with a total attendance of 123 teachers and two 16 hour Activboard Intermediate sessions with a total attendance of 25 teachers.
- Implemented a 1:1 iPad project with 5 teachers and 441 students at two middle schools and two high schools. Teachers received their iPads in August 2012 and had basic training on iPad use and functionality, but little or no training to support teachers' instructional use of the iPad. Students received their iPads in spring 2013, so this component of the district's grant is still considered to be in the early stages of implementation.
- Established the TelePresence Videoconferencing system to support point-to-point professional development activities at 10 schools and the district's three central training facilities. The system was not as well utilized as had been hoped for, due in some cases to a lack of interest in using the equipment at some sites and need for additional training and support at other sites. A review of usage across sites prompted movement of equipment from two sites that were not using it to two that were interested in using it. In spring 2013 the district used the system to extend the reach of its face-to-face Camp 21: 21st Century Learning Workshops and also offered other video conferencing professional development through its Activboard Academy/21st Century Learning Division. From mid-April through early June 2013, 73 teachers participated, via video conference, in three Activboard, two ActivExpression, five Camp 21, and one Google Docs professional development sessions.

White Pine County

- Purchased Mimio interactive whiteboards, webcams, and projectors for six schools to facilitate virtual professional development via Skype, but the installation of the boards at all six schools took longer than expected. Given the delay in getting the equipment set up, not surprisingly, use of the equipment for the purpose of supporting teacher professional development was less than expected; however teachers did use the Mimios as interactive boards to support instruction
- Purchased 13 teacher/staff laptops in FY12 and 60 student laptops in FY13. The district experienced the typical delay in deploying the student laptops due to the time it takes a small district with limited technology support staff to image all of their computers
- Purchased 17 iPads for use at the district's two high schools. An iPad Lab was established at White Pine High School and the devices were used to support the Senior Nexus project, which is a culminating business and community project that is required of each graduating student

IMPLEMENTATION

Satisfaction with Grant Implementation

Levels of satisfaction with the grant implementation varied across districts, but overall, project directors indicated that they were satisfied with the implementation of their respective projects. Those that were less than completely satisfied, such as the project directors in Churchill County, Mineral County, and Pershing County, tended to base their level of satisfaction on the amount of time it took to actually implement the project. In many cases most districts did not begin a full implementation of their projects until the second year of the grant, given that the first year consisted mostly of ordering equipment, testing equipment and software, imaging computers, managing issues related to infrastructure and other unforeseen issues. Even among the districts that faced the greatest setbacks to implementation such as Esmeralda County, which did not even implement it's project during the funding period, project directors expressed optimism for the opportunities afforded by the grant. Esmeralda County's Superintendent said "We're really satisfied with the direction that we're headed with the grant. We ran into some stumbling blocks with our connectivity, but we're excited about what we're going to be able to do." Similarly, the principal at Fernley Intermediate School in Lyon County, who faced a series of setbacks to implementation, including loss of Internet connectivity for most of the 2012-13 school year, said, "I think that we have done the best we could all year. We had some adversity and instead of just closing them [netbooks] and putting them away we continued to use them. We've proven that we want to be a model school and continue with this. You'd be hard pressed to find another school that has 100% staff buy in and continued using them even when we lost our Internet accessibility."

The project directors in the three districts that implemented video or web conferencing systems, expressed some disappointment that the equipment had not been used to the full extent they had hoped for. But, they also felt that they were ending the grant with good ideas and lessons learned about how to support teachers and administrators to increase the use of the equipment in the 2013-14 school year. Nye County's project director shared that, "People are starting to talk about being able to use Adobe Connect. It's just starting to catch on and I think that word of mouth helps us. I'm starting to write it into other grants as a way to connect teachers." The project director in White Pine County expressed that he was "not entirely satisfied with the Mimio usage," but also added that "it's getting better." In Washoe County, efforts to increase point-to-point videoconferencing for teacher professional development included moving equipment from sites that were not using it to sites that expressed interest in wanting to use it.

IMPLEMENTATION

Project directors in districts such as Carson City, Humboldt County and Mineral County, that replaced old computers, were very satisfied with their grant implementation. Carson City's project director indicated that she was "very satisfied" and shared that "A lot of the [school] administrators were relieved because they didn't have to find funding from somewhere else or have students work in a lab environment that was broken." Humboldt County's project director is also very satisfied with the implementation of the project, sharing that "It's been a positive benefit to our staff and students. The laptops have been very well received and very well used." In fact, in their initial roll out of laptops, the district created "mini mobile labs" with carts of 10 laptops each. They found that there was such a need and desire to use the laptops that teachers who had the carts were not sharing. To address this problem, they dismantled the mini labs and placed 5 laptops in each classroom. The carts are still available for teachers who want to use them, but now the new computers are more evenly dispersed throughout the schools.

Project directors in Clark County and Elko County, who oversaw grants that developed and offered online professional development courses for teachers, are very satisfied with their project implementation. The Clark County project director said she is "thrilled" and expressed that the BLAST modules that guide teachers in implementing the Common Core State Standards in elementary and middle school mathematics were exactly what she had hoped for. She credits her project facilitators, who led the module development, with the high quality of the modules, adding that, "sometimes you end up compromising but the quality [of the modules] is incredible." Wexford also interviewed the project facilitators who developed the BLAST modules. One of them shared that she feels that the modules "are in the forefront with where things are going in the future. I think you try to self learn so to put together a resource that allows teachers to do that is exciting for me. I think that [Clark County] is ahead of the game in that, and I wouldn't be surprised to see more professional development online instead of face-to-face for the shear size of our district." Elko County's project director, who led the district's eLearning for Educators (e4e) grant shared that she is "very pleased" that over the two-year grant period, 878 teachers have taken an e4e course, which includes the five new courses that were developed with support from the SETIF grant.

Elko County's project director who oversaw the district's 1:1 iPad project is also satisfied with how the project has been implemented. He shared that in fall 2012, teachers were frustrated as they worked through the process of learning about the iPads and trying to figure out how to best utilize them for instructional purposes. He says now they are seeing the benefits of having 1:1 technology in their classrooms, and he is seeing a level of quality in their lessons that was not there in the fall. As a show of support for the continued success of the project, all of the

teachers have agreed to use Canvas, an open-source learning management system, with their iPads and SMART Boards to facilitate student and teacher collaboration. Examples of how they are already doing this are shared in Part Three of this report.

Using grant funds to provide ongoing professional development for teachers using Activboards, continues to be a successful endeavor for Washoe County. The FY12-FY13 SETIF grant supported training stipends for instructors who conducted workshops through the district's Activboard Academy. The Academy is a series of 31 1.5 hour sessions designed for beginner, intermediate/ advanced, and "all levels" of Activboard users. Sessions were offered between February and May 2013, and 253 teachers attended. All participants had the opportunity to earn up to three PDE credits depending on the number of sessions attended. The Activboard Academy was also used to develop a cadre of Activboard site trainers, who were required to attend at least four Activboard Academy sessions in addition to attending ActivTrainer Cadre meetings.

While Washoe County School District did not see the level of use, across all participating school sites, that it had hoped for with its video conferencing equipment, the district did establish a good foundation for supporting the use of the equipment moving forward. Under the leadership of one of its program specialists in the district's 21st Century Learning Division, a system for tracking use of the equipment was developed, which includes documenting the name of the person who coordinated the videoconference, the date of the videoconference, how many people attended, the objective or purpose of the videoconference activity, and the duration of the activity. The district's IT department provided training on how to use the equipment and the program specialist provided follow up support to sites that were "scared" off by the technical aspects. She had hoped to offer training focused on the instructional rather than the technical aspects of using the equipment, but that did not happen during the grant period. She did, however, create a comprehensive binder of resources that included descriptions of the types of activities for which other schools were using the video conferencing equipment. With the exception of the district's two outlying schools, Gerlach and Incline, that have found the equipment very useful in facilitating their virtual attendance at Reno-based training, it has been an effort to get all of the pilot sites actively engaged. Before the end of the grant, the program specialist was able to engage the district's AVID teaches in using the equipment for their professional development as well as the district's special education teachers who have begun using it for planning meetings and training.

IMPLEMENTATION

Setbacks to Implementation

As reported in Wexford's final evaluation of the FY10-FY11 SETIF grant, small school districts remain troubled by the problem of being short-staffed when it comes to having enough technical support to roll out a technology project. Typical responses from these districts to the question regarding setbacks to implementation included:

- *The only thing that we had experienced was technical issues. Having enough technicians to get them loaded and out there. (Humboldt County)*
- *Purchasing a large quantity [of computers] and getting them imaged...We got everything in over last summer, but we only had one or two people working on it at a time. And we started with just one person and then we hired a second IT guy. (Mineral County)*
- *The major setback is that we have more work than what we can do. If you don't have dedicated people then I don't know how you can make this kind of project work. Trying to keep everything working. The computers break down and have software issues and have to be re-imaged and that's very time consuming. The teachers have started taking on some of the troubleshooting and that has been wonderful. There's got to be a lot of [technical] support out there to keep things running. (Lincoln County)*
- *We sent computers out to the schools and we only have one tech person in our district. Someone has to set them up. We got 60 laptops and they need to be imaged and set up. There wasn't any huge, major break down but it always take longer. (White Pine County)*

As previously mentioned, Esmeralda County and Lyon County experienced the most setbacks, or as Fernley Intermediate School's principal refers to them, "hiccups." Esmeralda County's major problem was an external infrastructure issue that their contracted telecommunications vendor, AT&T, wanted the district to resolve. In the words of the district's superintendent:

Part of the grant was to put in new hardware so that we could put in an extra T1 line at each campus. We had signed a contract with AT&T and we were within two weeks of having everything ready to go. Then they (AT&T) found out that their wires coming to our connection were damaged and they wanted us to repair the wires. That was $250K. So we had to look at alternatives. We are now looking at wireless. We've signed a contract with WestNet. They are coming on June 6 and we hope to implement by July 1 so we can implement when the new eRate starts. We've had a hard time getting people in place to provide us with services, but it's finally going to happen.

Lyon County experienced a series of setbacks beginning with a supply issue that delayed the delivery of the 600 laptops the district ordered. Expecting to receive 150 netbooks in February 2012 and the balance in March 2012, due to a flood at the ACER production facility in Thailand, the district only received 12 computers during the first year of the grant. The balance of the

laptops were received in June 2012. Needing to get software installed and the computers imaged, there was no time to test AT&T's cell tower capacity to support at least 400 computers online at the same time (as the district had been promised), prior to the beginning of the school year. This led the district into subsequent setbacks including poor connectivity in some of the school's buildings due to cellular signals being insufficient. Subsequently fewer students than expected were able to be online at any given time. Also, there were technical issues with the software that had been installed on the computers by an AT&T contracted vendor. Once the solution to the problem was identified, the district decided to re-image all of the computers themselves instead of sending them back out to the subcontractor and risk having them out of students' hands for at least a month. The principal's secretary, who received a modest stipend of $1200 to help manage the technical aspects of the 1:1 project, estimates that, "the week we re-imaged the computers I spent 5-6 solid days, 8-10 hours per day." She went on to share that, "In the proposal we wrote in for a full-time person to manage the program, but it wasn't approved. I'm not a computer expert by any means. So I would call our IT department and they would walk me through things. In the future it would be nice if this grant did have a tech person full time. I think that could be beneficial. It was more hours than we expected. It was a lot of work, but it was for a good cause." On top of all of these setbacks, the school only had Internet connectivity from September 2012 to January 2013. Service was interrupted when Fernley Intermediate School was unable to submit a new eRate application following the death of the gentleman with whom they had contracted to help them with the application.

Clark County School District intended to have three project facilitators develop BLAST modules and had projected that with three facilitators they would be able to complete an online module for every elementary and middle school Common Core State Standard for Mathematics. They lost one of their project directors in the middle of FY12 and had to make adjustments to their planned workflow. With only two project facilitators, remarkably, they were able to develop 58 modules, but the project director and both facilitators are confident that they would have completed all of the modules if they had not been short staffed. One of the other hurdles faced by not having a third project facilitator was that they could not get into as many classrooms as they wanted to capture more video of teachers implementing the standards. The videos are a core component of the BLAST modules, and as the project director describes, "We have some [video] but it needs to be edited. We were always scrambling to just get the modules developed. We wanted to be in classrooms videotaping a lot more than we were able to. Teachers want that, they want to see what it looks like."

IMPLEMENTATION

Churchill County did not get the majority of its thin clients installed until spring 2013. The district was not satisfied with the first set of thin clients it ordered so, working with their contracted IT provider, they spent a good part of Year 2 piloting equipment before ordering the second set of computers. While the computers were not utilized for instructional purposes for most of the 2012-13 school year, the project director is still satisfied that they were available to be used for their grant-funded purpose, which was to be set up in labs and used for student assessment. All of the district's 5th and 8th graders used the thin clients to take the Nevada State Writing Assessment.

At the start of the 2012-13 school year, Pershing County intended to roll out iPads to its 3rd grade classrooms, but as the project director described it, they ran into "funding problems." The district had purchased iPads and wanted to order more, but the project director was advised by a district administrator that additional iPads and cases for all of the devices could not be ordered until the Commission approved the reallocation of grant funds. The project director was not aware that while money could be moved within approved funding categories, districts are not allowed to move funds in to categories that had not previously been approved by the Commission until they request and receive such approval. Receiving this approval was further delayed by a district staff change (i.e., the person handling the budget change request). While the district was awaiting its approval to reallocate funds, the third grade teachers were hesitant to hand out the iPads they did have because they did not have cases, and one teacher only wanted to roll them out when she had a full set of iPads. This entire situation resulted in a 3-4 month delay in getting the iPads into the hands of the students. It was not until spring 2013 that the 3rd graders started using the iPads.

Lessons Learned

One of the major themes that came out of projector director interviews was the importance of maintaining good communication. This was expressed by project directors who had communication problems with school administrators as well as those whose projects were set back by communication problems with vendors. Churchill County's project director said, "I think the communication was our poorest link. I had principals trying to make some decisions that were not in alignment with the grant." White Pine County's project director took an informal approach to communicating project expectations to school principals. In hindsight, he feels that he would have a higher rate of implementation and be able to establish accountability standards if he rolled out the project to participating schools as a group, rather than individually.

IMPLEMENTATION

More so than a lesson learned, it is an acknowledgement by some school districts of the staff time and expertise required to implement a technology project. Clark County's project director acknowledged that the quality of the project facilitators she hired was "critical" to the success of the BLAST modules, pointing out that "the depth they have of math content made it work." Lincoln County's project director expressed that while the district was appreciative of all of the hours (paid and in-kind) that their grant-funded computer technician put into supporting the 1:1 netbook project, they need someone to staff this as a full time position. The district was forced to make a tough choice when it decided to hire a full time technician for the 2013-14 school year. As the project director shared, "[Our technician] did a fantastic job but he was part time and he's a full time teacher. It was a lot of work for him. Now we're going to try a full time guy. Hiring the full time person meant we had to let go of [our Technology Integration Specialists]. It's tough to have to do those trade-offs. We appreciate what they (TISs) were doing, but we think the full time person is going to be much more beneficial than two part time people who help teachers make this work in their classroom." In Lyon County, the sentiment is the same about needing tech support. They feel that having the funding for a technology coach and tech support position taken out of their grant "really set us back." As described elsewhere in the report, the school that implemented the 1:1 project relied heavily on the principal's secretary who received a modest $1200 stipend for the entire school year to support the project, but provided literally 100s of in-kind hours to image computers, communicate with vendors, install software, set up student accounts with passwords, and other tech support.

Elko County's project director feels that a technology project's success is built on a foundation of sufficient professional development to meet the needs of teachers implementing the project. His goal for the 2013-14 school year is to have a half-day, weekly, set aside for professional development related to integrating the iPads into the CCSS curriculum. He also plans to develop a cadre of mentors that serve as site-based technical coaches in each building. Elko County is fully invested in supporting, growing, and maintaining a successful district-wide 1:1 initiative. To that end, the project director along with technical and instructional support staff meet regularly to assess various aspects of the project. While they basically satisfied with the project, they have come to realize that the iPad has some limitations that that the district is considering as it plans the expansion of its 1:1 project. As the project director shared, "The iPad is not a great device to use when typing an English paper. They work well to access content online and to do research. The iPads are limited in the area of saving documents to a usable file that can be opened on a PC using Microsoft software. The iPad is a good tool but may not be robust enough to serve the needs of secondary students and teachers." Given these limitations the district has concerns about the cost of device and is investigating a Dell product that is both a tablet and a

laptop, which the Computer Systems Manger feels "might be a better tech match" for the district.

In keeping with the idea that successful implementation comes from providing teachers with what they need, Pershing County's project director feels that her greatest lesson learned was about listening to teachers and being responsive to their needs and interests. She recognizes that doing so sometimes requires going outside of the parameters of the proposed grant-funded project, but feels very strongly that "when you have technology and you push it on somebody when they're not ready, it's a waste of money and a waste of time. I thought these teacher were ready, but when I look back they weren't ready. I was still pushing them on it. They were excited because I was excited about it, but they weren't coming to me. Excitement doesn't equate to an understanding of the time commitment that it takes to implement 1:1." In this case she's referring to pushing a 3rd grade teacher into using the iPads (the grant funded 1:1 iPads for this grade level) rather than giving the iPads to a 2nd grade teacher who was eager to use them (the grant funded iPods for 2nd grade classrooms).

Project Director Comments to Nevada's Commission on Educational Technology

Project director interviews concluded with the question, "What would you like the Commission to know about your grant?" Not everyone provided an answer, but those who did mostly expressed appreciation for the Commission's investment in a much needed area of technology for the district. The project director in Pershing County also made a statement regarding her sentiment that the grants need to focus on what matters to the people who will be implementing the project. Here, in their own words, is what project directors in various districts would like to share with Nevada's Commission on Educational Technology

Churchill County	*We appreciate that the Commission recognized that we had a need. It was a need that allowed us to be efficient with the funds we requested. We were able to benefit schools by building and sustaining an implementation that will support our capacity to implement the Common Core in their classrooms*
Clark County	*We're thrilled that we were able to do this [BLAST Modules] for all the districts in NV. We're working with the state department to provide it out statewide. Is's so modular that it can be used in a variety of ways. In my heart of hearts I know we've done something good for kids.*

IMPLEMENTATION	
Esmeralda County	*We really appreciate it. In our situation, we're a poor, small school district. We don't have the resources to put this type of [network communications] system in just from local resources. The grant enabled us to have a first class networking system for this small school district.*
Humboldt County	*I just don't think it would have been possible to get to the level that we're at. It was a tremendous amount of money we were able to get and get our district on the right track. With these funds we were able to get the machines and leveraged our funds to get the bandwidth and infrastructure in place to get us ready for SBAC. Without those funds I worry where we would be at this point.*
Lincoln County	*Thank you, thank you, thank you. I don't know that we could have made this [1:1 project] happen. At least not nearly as quickly as we did without the grant. It was a big help.*
Lyon County	*I'm in support of the 1:1 initiative and it's flashy, but [the Commission] has to realize that along with it we need infrastructure funding as well as tech support funding and we need professional development. Even though this is a great program, we need the ground work to keep [the computers] supported and sustained.*
Mineral County	*Our schools really appreciate getting the funding. Our kids couldn't stay on the computer a few minutes at a time. [The Commission] basically brought computers to our schools.*
Nye County	*I think that having the equipment and the software, this grant has been very useful for us and will continue to be. Sometimes it's hard to put technology projects together when you don't have the bandwidth. I think this is a good project and I think that the more we use it other rural districts would be able to use it. I would recommend this to other rural districts.*
Pershing County	*If we listened more and more to our kids and teachers and gave them the money instead of saying we have to implement this and push things on teachers, you would get amazing results if you let teaches implement what they are excited about. But that doesn't happen. I think some of our very best possibilities that could happen don't happen because the funding has to fit what the Commission wants.*

IMPLEMENTATION	
Storey County	*Sometimes grants have so many restrictions on them without any flexibility. In this case we had some flexibility and were able to use [the devices] in a number of different ways.*
White Pine County	*A $5000 donation was given to Norman Elementary, which has 17 teachers. They all want Mimios in their classrooms and they will all get them next year, so we know they were using them [this year].*

Part Three: Impact

Impact on Teachers: Results of Nevada Teacher Technology Survey

During March-May, 2013, Wexford surveyed teachers in all grant-funded districts with the exception of Storey County School District. We were informed that only one teacher had actively used the grant-funded technology during the 2012-13 school year and we, therefore, decided not to administer the survey to one participant.

Respondents

Nearly 700 (N=696) teachers, administrators, and other school staff responded to the survey. Table 4 shows the number and percentage of respondents from each district in which the survey was administered.

Table 4. Number of School Personnel Responding to End-of-Year Survey by District

District	Frequency	Precent
Carson City	48	7%
Churchill	40	6%
Douglas	132	19%
Elko	22	3%
Esmeralda	5	1%
Humboldt	76	11%
Lander	7	1%
Lincoln	20	3%
Lyon	15	2%
Mineral	21	3%
Nye	179	26%
Pershing	5	1%
Washoe	90	13%
White Pine	36	5%

School Level of Survey Respondents

Most of the survey respondents are classroom teachers (n=575), with over 100 other respondents reporting their position as administrators, technology coordinators, counselors, speech/language specialists, curriculum coordinators, librarians, paraprofessionals, and “other”.

Impact

We realize that some 6th graders are at middle schools, some 5th and 6th graders are at intermediate schools, and some 7th-and 8th graders are at high schools; however, to make comparisons across school level easier for reporting purposes, we identify PK-6th grade teachers as "Elementary," 7-8 grade teachers as Middle School/Junior High, and 9-12 grade teachers as High School. Also, for the purposes of providing comparative analysis and reporting outcomes for teachers, we report findings only for those survey respondents who identified themselves as a teacher of a specific grade and/or subject. The breakdown of teachers who responded to the survey across school levels is shown in Table 5, below.

Table 5. Number of Respondents by School Level

School Level	Frequency	Percent of All Respondents
Elementary	322	46%
Middle School	129	19%
High School	124	18%
Total	**575**	**83%**

Technology Using Educators

We asked teachers across the state to select the statement that best described their technology use. The survey included three questions that were focused on gathering general information about their technology skills, the frequency with which they use the grant-funded technology, and the extent to which they were satisfied with their own technology integration and support for using technology in their school.

Technology Skill

Educators identified their technology skill level using a 5-point Likert-scale that ranged from "I am not currently using technology" to "I am a technology leader who supports others at my school." The majority of respondents identified themselves as "an intermediate user who needs occasional support." Only 20 percent of respondents identified themselves as beginning users, with the breakdown being four percent who identified as beginning users who need "regular support" and 16 percent who identified as beginning users who need "occasional support." Ten percent of the respondents described themselves as technology leaders who support others at their school. Table 6, on the following page, shows the number of educators who identified with each descriptor.

Table 6. Teachers' Self-Assessed Technology Skill Level by School Level

Statement	ES	MS/JH	HS
I am not currently using technology	1%	4%	1%
I am a beginning user who needs regular support	5%	4%	4%
I am a beginning user who needs occasional support	18%	12%	13%
I am an intermediate user who needs occasional support	53%	49%	46%
I am an advanced user who does not need regular support	16%	20%	25%
I am a technology leader who supports others at my school	6%	12%	11%

When disaggregated by school levels, there were no statistically significant differences among the percentage of respondents who identified themselves at the various skill levels.

Technology Integration

Teachers used a 4-point scale to indicate their level of satisfaction with five indicators related to technology integration. We asked them to indicate their level of satisfaction with their current level of technology integration, the amount of technology-focused professional development they received, the level of technology support they received, administrative support for innovative uses of technology, and opportunities for peer collaboration related to the integration of technology. The highest level of satisfaction was with administrative support. Over half of the respondents (55%) reported that they were satisfied or very satisfied with administrative support for the innovative use of technology. Just about one-third of the respondents indicated that they were satisfied or very satisfied with their current level of technology integration (37%) and opportunities for peer collaboration (33%).

When disaggregated by school level, there were significant differences in levels of satisfaction between elementary and middle school teachers and elementary and high school teachers. Table 7, on the following page, shows the percentage of teachers at each school level that agreed or strongly agreed with each statement related to technology integration.

Impact

Table 7. Teachers' Level of Agreement about Technology Integration by School Level

The extent to which you are satisfied with...	Percent Who Agree/Strongly Agree		
	ES	MS/JH	HS
Your current level of tech integration	45%	42%	40%
The amount of technology-focused professional development that you get	34%	41%	31%
The level of technical support you receive	51%	50%	39%
Administrative support for innovative uses of technology	54%	59%	43%
Opportunities for peer collaboration/resource sharing around the instructional uses of technology.	30%	35%	28%

When we analyzed the data using Chi Square, we found a significant difference between the percentage of elementary teachers who agreed or strongly agreed that they were satisfied with the amount of technology-focused professional development they receive compared to the percentage of middle school teachers who agree or strongly agree. Just over one third of the elementary teachers (34%) agree or strongly agree compared to 41 percent of middle school teachers. There was no significant difference between elementary and high school teachers or middle school and high school teachers.

There was also a significant difference between elementary and high school teachers on their level of satisfaction with the technical support they receive as well as a difference between elementary and high school teachers on administrative support for the innovative use of technology. A significantly higher percentage of elementary school teachers (51%) are satisfied with the level of technical support they receive compared to high school teachers (39%). The 54 percent of elementary school teachers who are satisfied that their administrator supports innovative uses of technology is significantly higher than the 43 percent of high school teachers who are satisfied with administrative support.

CCSS Professional Development

Because the use of technology is embedded in the ELA and mathematics Common Core State Standards, and because the focus of the FY12-FY13 State Educational Technology Fund Grant was on utilizing technology to support the implementation of the CCSS, we asked educators to indicate what types of CCSS professional development they had during the 2012-13 school year. Based on interviews with project directors, we narrowed the response options to professional development from a Regional Professional Development Program office, professional development from their own district, professional development from other districts,

professional learning communities, non-plc workshops at their school, online professional development, and other.

Not surprisingly, the greatest percentage of educators (66%) indicated that they had received CCSS PD from their own district. This was followed by 40 percent who got CCSS PD through their site-based professional learning community, 38 percent who had workshops at their school, 14 percent who participated in RPDP training, 11 percent who utilized online PD, and five percent who had PD from other districts. Among those who indicated other types of CCSS PD, the most common responses were PD from university courses, conferences, and finding their own resources.

Table 8. Types of CCSS PD in which Educators Participated

	Response Percent
Regional Professional Development Program (RPDP)	14%
PD from Own District	66%
PD from Other Districts	5%
PD Workshops at School	38%
Professional Learning Community	40%
Online Professional Development	11%
College/University Course	<1%
Conference	<1%
Personal Research	<1%

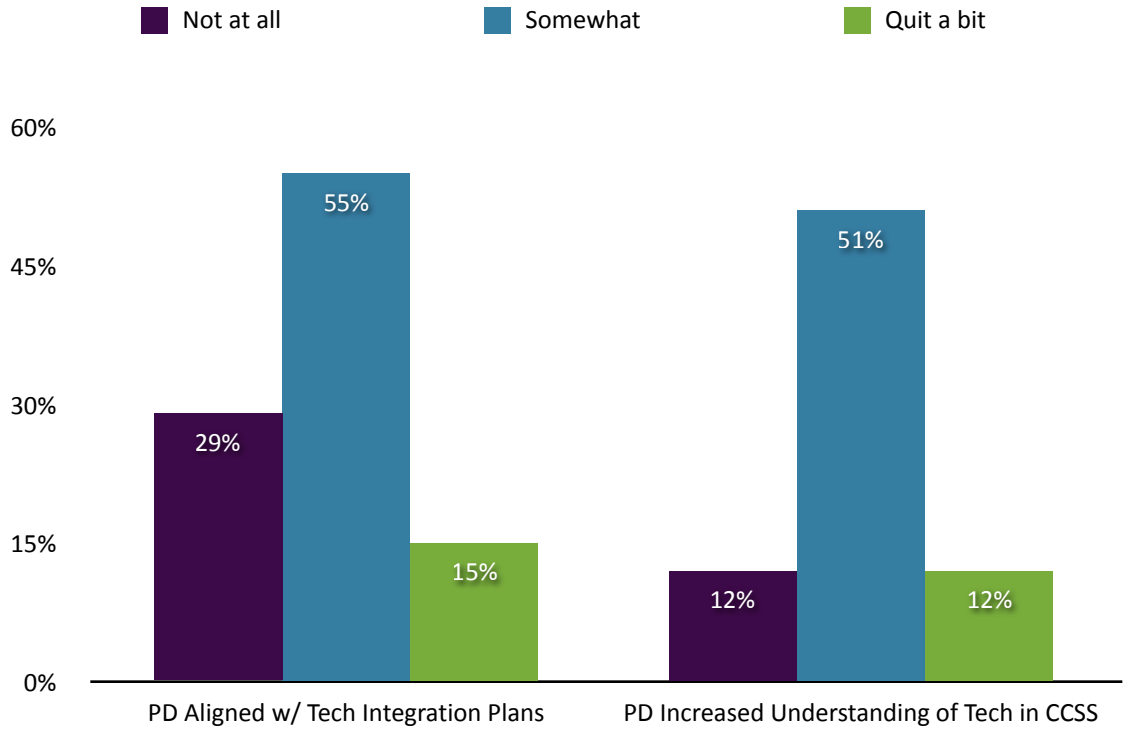
We also asked educators to indicate to what extent their CCSS PD had addressed the integration of technology into core content areas. Over half of the respondents (51%) indicated that their CCSS PD had focused "somewhat" on integrating technology into the core content areas, and 13 percent indicated that their training had focused on tech integration "quite a lot."

More on Professional Development

Rather than quantify the number, types, and focus areas of professional development sessions educators had attended, we decided to ask them to indicate the extent to which any PD they had during the 2012-13 school year was aligned with what they were doing (or wanted to do) to integrate technology into their lesson plans and the extent to which any PD they had increased their understanding of how to use technology to implement CCSS instructional strategies. Of the former statement, 55 percent and 15 percent of respondents indicated, respectively, that their

PD had been aligned with their tech integration plans "somewhat" and "quite a bit." Of the latter statement, 51 percent and 12 percent of respondents indicated, respectively, that their PD had increased their understanding of how to use technology to implement CCSS instructional strategies "somewhat" and "quite a bit."

Figure 2. Teachers' Feedback on CCSS-Related Professional Development



We knew from interviewing project directors that, for the most part, teachers did not receive an optimal amount of technology-focused (either skills based or instructional) professional development. To assist districts in identifying teachers' technology needs, we asked teachers to indicate the areas in which they would like more technology-related professional development. They chose between four broad areas including productivity tools (i.e., how to use software, learning management systems, etc.); instructional tools (i.e., content-based software or web resources); Web 2.0 tools (i.e., online collaboration, cloud storage, Google Apps); and integrating technology into the curriculum. They also had an opportunity to write in "other" areas of interest.

Most of the respondents indicated an interest in professional development focused on integrating technology into their curriculum (66%) and learning how to use instructional tools (60%). Only 39 percent of respondents indicated an interest in learning about productivity and

Web 2.0 tools. Among those who wrote in other areas of interest for technology PD, most of the responses were device specific, such as more basic or advanced training on using their interactive whiteboard or iPad. Others responded to this question by indicating a need for more or reliable technology and a need for time to develop "hands on" technology lessons.

Use of Technology

Given the statewide expenditures on hardware (i.e., laptops, desktop computers, tablets, iPads, iPods, and video and web-conferencing equipment), we wanted to know from educators, the frequency with which they use their grant-funded technology. Teachers in districts that received grant funds for infrastructure also responded to this question, though their use of a particular technology was not specified. Nearly three-fourths of the respondents (74%) reported that they use their grant-funded technology at least once per week, this includes 58 percent who indicated that they use technology three or more times per week. When disaggregated by school level, there was a significant difference between middle school and high school respondents. While 63 percent of high school teachers indicated that they used their grant-funded technology three or more times per week, fewer middle school teachers (51%) reported using technology with the same frequency.

We also asked teachers to report on the frequency with which students use grant-funded technology as an instructional tool, to create something, and to collaborate with other students. Over two-thirds of respondents (68%) reported that their students use technology as an instructional tool at least once per week, which includes 40 percent who cite that students do so three or more times per week. Very few respondents indicated that their students use technology to create something (23%) or to collaborate with other students (19%). In fact 43 percent and 58 percent of teachers, respectively, indicated that their students "haven't done this yet." There were significant differences between how teachers at the various school levels responded to these questions. Of note is the significant difference between the percentage of middle school teachers (58%) compared to high school teachers (38%) who reported that their students had worked on a technology project.

Elementary school teachers (50%) were more likely than middle school teachers (26%) and high school teachers (25%) to report that their students used technology as an instructional tool three or more times per week. They were also more likely (53%) than middle school teachers (35%) and high school teachers (30%) to report that their students had not used technology to create something.

Impact

Almost half of the respondents (45%) reported that their students had worked on a technology-focused project during the 2012-13 school year. Disaggregated by school level, more middle school teachers (58%) reported that their students worked on a technology project compared to elementary teachers (41%) and high school teachers (38%). Among those who reported that their students had worked on a technology project, 75 percent said that it took between one and 5 class periods to complete the project, with the majority of those responses (46%) indicating four to five class periods for project completion. We were interested in finding out how much of the project time was spent teaching students how to use the technology as opposed to time spent using the technology for instructional purposes. Most respondents indicated that between 10 to 30 percent of total project time was spent teaching students how to use the technology. In other words, for the majority of students, at least one half to one and a half class periods were spent learning how to use technology.

Overall Outcomes

Over 300 educators across the state responded to four questions in which they were asked to indicate their level of agreement with statements that compared their experience in the previous school year to that of the 2012-13 school year. In particular, we wanted to know if their access to and/or use of grant-funded equipment had increased the frequency with which students use technology, enhanced students' experience as consumers of digital content, enhanced students' experiences as producers of digital content, and increased their use of technology to address the Common Core State Standards.

Nearly three-fourths (72%) of respondents (N=367) agreed or strongly agreed that there was an increase in the frequency with which students use technology. The majority (70%) of respondents also agreed or strongly agreed that access to and use of their grant funded technology enhanced students' experiences as consumers of digital content; enhanced students' experiences as producers of digital content (60%); and increased their use of technology to address CCSS (58%).

Table 9. Outcomes Related to the SETIF Grant

Compared to the previous school year, having access to new technology	Percent Who Agree/ Strongly Agree
Increased the frequency with which students use technology	72%
Enhanced students' experiences as consumers of digital content	70%
Enhanced students' experiences as producers of digital content	60%
Increased my use of technology to address Common Core State Standards	58%

Impact

Summary of Nevada Teacher Technology Survey

Data from the Nevada Teacher Technology Survey indicate that teachers are using their grant funded technology, that they are increasingly creating opportunities for students to use technology, and they are seeing the positive impact of doing so. As districts are acutely aware, teachers desire more technology-related professional development. Many districts face a human resource issue that makes it difficult to provide the technology-related professional development that is needed and that teachers want. Yet, it still remains that with the adoption of the Common Core State Standards, it is more imperative than ever that districts find ways to build capacity to meet these needs.

Fewer than half of the teachers (44%) surveyed reported that they are satisfied with their current level of technology integration. Only 37 percent are satisfied with the amount of technology-focused professional development they receive. It is encouraging that over half of the teachers (55%) are satisfied with the administrative support they receive for implementing innovative uses of technology, but few teachers (33%) feel that there are adequate opportunities for technology-related peer collaboration.

The findings related to teachers' perception of how their grant-funded technology contributed to changes in students' use of technology is encouraging. The majority of teachers felt that compared to the previous school year, having access to the technology increased the frequency with which students used technology and also enhanced their experiences as consumers of digital content. Essentially, students, either by having access to their own device, or reliable computers, or a stable networking environment, were able to explore more sites, and utilize more resources than they had previously. While this is encouraging, districts should be concerned that only 60 percent of teachers feel that the technology was used to enhance students' experiences as producers of digital content. The CCSS increasingly call for students to utilize technology to become active producers more so than passive users of digital content. Finally, districts should take note that just 58 percent of teachers feel that the technology to which they had accessed increased their use of technology to address the Common Core State Standards. This finding is likely related to the availability of professional development that specifically focuses on how technology use is embedded in the CCSS.

Impact of Face-to-Face Professional Development

The SETIF grant supports Washoe County's long standing commitment to provide its teachers with high quality, on going professional development for beginning to advanced ActivBoard users. Funding from the grant supported trainers who implemented the ActivBoard Academy, which provided 31 1.5 hour workshops to 253 teachers during the 2012-2013 school year. In addition to this training, the district also offered five 8-hour Activboard Core Essentials courses to 123 teachers and two two-day Activboard Intermediate courses to 25 teachers.

Approximately 70 teachers from Washoe County responded to Wexford's Nevada Teacher Technology Survey. Ninety one percent of the teachers agree or strongly agree that the ActivBoard training increased the frequency with which their students use technology; 87 percent think the training has helped them enhance students' experiences as consumers of digital content; and 90 percent feel that the training increased their use of technology to address the Common Core State Standards.

Among the respondents, 65 percent reported that they use their ActivBoard three or more times per week and another 17 precent reported that they use their interactive whiteboard once or twice a week. The ActivBoard is primarily used to engage students in interactive learning games (62%), facilitate individual or small group learning activities (53%), increase students' access to supplemental content (43%), and administer quick assessments/tests for understanding (48%). We asked teachers to report on how often their students get to use the ActivBoard; and 48 percent said their students use the board three or more times per week. A total of 75 percent of teachers reported that their students use the ActivBoard at least once per week.

Student Feedback on ActivBoard Use

Nearly 170 students from Clayton MS and O'Brien MS responded to our Student Technology Survey and provided feedback on their experience using the ActivBoard. Students' report of the frequency with which they get to use the interactive whiteboard is consistent with teachers' report. Fifty two percent of students reported that they get to use the board once or twice per week; the other 48 percent reported using the board three, four, or five days per week. Most students reported that in all core content areas their teacher uses the ActivBoard more than the students, but a small percentage of students indicated that in English (16%), mathematics (25%), social studies (19%), and science (12%) the students and teachers use the ActivBoard "about the same amount of time."

Impact of Developing Online Teacher Professional Development

Grants awarded to Elko County and Clark County resulted in the development of online professional development courses for teachers in the state of Nevada.

Elko County e4e Online Courses

eLearning for Educators is an online professional development program that provides 6-week courses throughout the year on a variety of technology and content based topics. During the 2012-13 school year, Elko County's e4e project offered 29 online courses; three of the 29 courses were developed with support from the SETIF grant. Over 860 teachers, from all districts in the state of Nevada took an e4e course over the two-year grant period. Courses were offered in Fall 2012, Winter 2013, and Spring 2013.

Table 10. e4e Course Offerings

Courses		
Fall 2012	**Winter 2013**	**Spring 2013**
Best Educational Resources on the Web	Classroom Management in the 21st Century	Best Practices in the Digital Age: More than Just PowerPoint
Classroom Assessment Enhanced by Technology	Common Core and Language Arts	Data-Driven Decision Making
Digital Storytelling	Differentiating Instruction	Digital Portfolios
Everything You Wanted to Know about SPED	Google for Educators	Learning and Teaching with Web 2.0
Internet Safety for Schools in the Digital Era	How to Become an Online Facilitator	Virtual Quest for Adventure
Math Connections: Integrating Common Core Math Practices	SMART Board Level 1	WebQuests, Treasure Hunts, and Hotlists
	Using Technology to Help Students Become Better Researchers	Wikis, Blogs, Podcasts, and Skype

In March 2013, Wexford administered an online feedback survey to teachers who had completed one or more of 14 e4e course offerings in the fall and winter. We received responses from 86 course participants in 10 counties including Clark County, Churchill County, Elko County, Humboldt County, Lincoln County, Lyon County, Nye County, Washoe County, and White Pine County. Forty five percent of the respondents were first time online course takers. The focus of the survey was to gather information about participants' online course experience and to provide the project director with feedback on various course components.

Impact

Nearly all of course takers (99%) reported that they found value in the course forum and they agreed that the forum included many meaningful discussions. In fact, 90 to 96 percent of course takers agreed or strongly agreed that the key components of the courses (i.e., reading materials, web resources, course assignments and the discussion forum) increased their understanding of the content, increased their understanding of how to present the content, and provided them with strategies that could be implemented right away. The overwhelming majority of course takers also agreed or strongly agreed that the course content was contemporary (95%), engaging (96%), and relevant (96%). Sixty one percent of respondents reported that what the course taught them about pedagogy was useful or very useful and 93 percent felt that the course met or exceeded their expectations. The majority of teachers felt that their course was a good introduction for teaches who have had little or no training in the course content area (69%), provided a breadth and depth of training that is not otherwise available (59%), and is a good supplemental resource for teachers who are already receiving training in the course content area (53%).

In relation to addressing the Common Core State Standards, 92 percent of teachers felt that their course provided them with resources related to implementing the CCSS and 89 percent felt their course provided pedagogical strategies related to implementing the Common Core State Standards. When asked how they could apply or already have applied what they learned in their course, teachers shared that they were:

- Implementing short research projects
- Using online communication tools to more easily and readily collaborate with peers, support student collaboration,and communicating with students and parents
- Differentiating instruction with “meaningful tasks and assessments”
- Doing more direct questioning with students related to the texts they are reading
- Incorporating SMART Board lessons into their curriculum

Some of the positive feedback that teachers provided about their class included the following:

- *I liked the discussion forum and being able to share with teachers who are experiencing the same things I am.*
- *I liked that I could use what I was learning right away.*
- *Good resources and thorough. Love the online environment. Resources were perfect amount and not overwhelming.*
- *Convenience for rural participants.*

Impact

- *I found myself getting excited about the things that I was learning. It also gave me great new teaching strategies that my kids really respond to.*
- *I really enjoyed all the materials we read and videos we watched.Ii'm not sure I would find those on my own. I also liked the discussion forum and reading others' input.*
- *The course provided many useful materials that I can refer back to again and again in the future. I have also shared some of the knowledge I have gained with fellow teachers.*
- *I appreciated the opportunity to work with other teachers not in my district.*

The data gathered from Wexford is consistent with spring and summer 2013 course feedback data we acquired from the e4e project director. Over 200 teachers provided feedback for courses completed in spring 2013 (n=94) and summer 2013 (n=107). Compared to feedback collected from fall and winter course takers, there were participants from 14 rather than 10 Nevada school districts, which indicates increased statewide awareness of the availability of e4e courses. Consistent with data gathered from the survey Wexford administered, 98 percent of spring and summer course takers indicated that their expectations for the course they took were met or exceeded and 93 percent felt that their facilitator was effective or very effective in helping them meet the goals of the course.

What teachers appreciated most about the online course offerings was being able to work at their own pace, not having to travel for professional development, that it was less expensive than other courses offering PDE credits, that they could read and post messages at their own pace, and that the online environment allowed them more time to be reflective. The end-of-course feedback survey included questions that required teachers to indicate their level of agreement with statements about having an increased understanding of the course content. Most of the teachers (88%) agreed or strongly agreed that they had a better understanding of the course content after completing the online workshop.

Clark County BLAST Modules Online Professional Development

Clark County School District (CCSD) developed online professional development modules to support teachers' implementation of the Common Core State Standards (CCSS) in elementary and middle school mathematics. The collection of modules, referred to as BLAST (Bringing Learning and Standards Together), address multiple domains and clusters within grade-level standards. Each module includes four main components: a "Standards" video that explains the meaning and intent of the standard being addressed in the module; an "Assessment" section that offers instructional strategies and addresses common student misconceptions; an "Instruction" section that presents best practices and additional external resources to support

teachers' exploration and understanding of the standard; and a "Collaboration" component that encourages teachers to collaborate and communicate in face-to-face and online professional learning communities. CCSD supports an Edmodo community in which teachers are encouraged to try a technology-based implementation of the standard and post it in the grade specific Edmodo forum. There are also prompts for face-to-face collaboration.

The BLAST website (http://commoncore.ccsd.net/) officially launched in September 2012 with five elementary mathematics modules and 6 middle school mathematics modules. By the end of June 2013, there were 34 elementary mathematics modules, covering domains in Counting and Cardinality, Operations and Algebraic Thinking, Number and Operations in Base Ten, and Number and Operations-Fractions, and addressing 60 CCSS elementary mathematics standards. By the end of the grant, there were 24 middle school mathematics modules, covering the Ratios and Proportional Relationships, Number Systems, Expressions and Equations, Functions, and Statistics and Probability domains. These modules addressed 50 CCSS middle school mathematics standards.

Table 11. Elementary Mathematics CCSS Module Development by Grade Level

Grade	Domains	Number of Standards Addressed	Total Modules K-5
K	• Counting and Cardinality • Operations and Algebraic Thinking • Numbers and Operations in Base Ten	13	**34**
1st	• Operations and Algebraic Thinking • Number and Operations in Base Ten	10	
2nd	• Number and Operations in Base Ten	9	
3rd	• Number and Operations in Base Ten • Number and Operations-Fractions	6	
4th	• Number and Operations in Base Ten • Number and Operations-Fractions	13	
5th	• Number and Operations in Base Ten • Number and Operations-Fractions	9	
	Total	**60**	

Table 12. Middle School Mathematics CCSS Module Development by Grade Level

Grade	Domains	Number of Standards Addressed	Total Modules K-5
6th	• Ratios and Proportional Relationships • Number Systems • Expressions and Equations	21	**24**
7th	• Ratios and Proportional Relationships • Number Systems • Expressions and Equations	10	
8th	• Number Systems • Expressions and Equations • Functions • Statistics and Probability	19	
	Total	**50**	

Google Analytics for BLAST website

The project facilitators who developed the BLAST modules gathered monthly Google Analytics to document web traffic including page hits, average number of page visits per visit, average length of time per visit, and geographic location of the website visitor. Unique hits to the BLAST website ranged from a low of 149 in September 2013 to a high of 1339 in May 2013. This was an increase of nearly 800 percent in unique page hits from the launch to the end of the grant. The total number of hits to the BLAST web pages as of May 31, 2013 was 9813, and the total number of unique hits was 6822. Not surprisingly, most (74%) of the BLAST Module visitors were from Nevada, but the site also attracted visitors from other states and countries. Within the state of Nevada, 98 percent of visitors were from Las Vegas, Henderson, and North Las Vegas. The remaining two percent of visitors were from northern Nevada cities including Reno (n=50), Elko (n=12), Winnemucca (n=9), Mesquite (n=8), Fallon (n=7), Carson City (n=6), and Boulder City (n=5).

BLAST Presentations and Professional Development Opportunities

BLAST project facilitators conducted a number of presentations to introduce teachers to the modules. These included eight face-to-face sessions in January and February 2013, as well as two webinars in February 2013. In March and April over 100 teachers participated in the K-5 Math Academy: Common Core and earned 1 PDE for completing BLAST modules. During that same time period over 270 teachers worked in teams of 3-6 at their respective school sites and used the BLAST Modules as part of their Common Core-focused PLC. Nearly 150 teachers from

this cohort participated in continued professional development, working through additional BLAST Modules in May 2013. Additionally, 15 teachers recruited through the Teacher On-Boarding program received BLAST professional development.

BLAST Feedback

Every BLAST Module has a feedback survey embedded on each page. The survey link is the same on each page, and is repeated on each page to give visitors an opportunity to provide feedback regardless of the length of time they spend in the Module or the number of pages that they visit. Among those who properly identified the Module for which they were providing feedback, there were 845 survey responses spanning modules for grades K-8. Users were asked to indicate which components of the BLAST module they found most helpful. Most of the respondents (66%) indicated that the Video about Standards that introduces each module was the most helpful. As reflected in feedback and suggestions that participants shared, few users (32%) identified the Edmodo Online Resources as most helpful.

Wexford collaborated with the project facilitators to develop a feedback survey that would provide additional information about users' experience and their implementation of the standards after completing the module. A small sample (n=28) of teachers who had completed modules were used to pilot the survey in March 2013. An email was sent to 78 teachers for whom an email address was acquired when teachers completed the embedded survey. After the results of the survey were shared with the project facilitators, it was decided that no changes would be made to the survey and that it would be administered to the cohort of teachers who participated in the online and face-to-face professional development as part of their professional learning community.

In May 2013, Wexford sent a link to all 272 of these elementary and middle school teachers requesting that they complete the survey. The response rate was fairly high, with 59 percent (n=161) of the teachers completing the survey. Among those who responded to the survey, 89 percent had accessed the Elementary Math modules.

Accessing Module Components

We asked teachers to indicate how many times they accessed the various module components. Most of the teachers accessed module components between two and five times. The percentage of teachers who accessed each module component two or more times is shown in Table 13, on the following page. Eighty five percent of survey respondents indicated that they

had not accessed the Twitter feed at all, so data on multiple visits to this component are not included in the table.

Table 13. Percentage of Module Users Who Accessed Various Components Multiple Times

Module Component	Number of Times Accessed		
	2-5	6-10	10+
Sidebar Resources	67%	15%	3%
Video about Standards	61%	15%	3%
Misconceptions Resources	55%	18%	3%
Assessment Resources	60%	14%	3%
Instructional Strategies	60%	21%	4%
Questioning Strategies	57%	15%	5%

When asked why they accessed module components multiple times, 60 percent of teachers said they wanted to review the standards videos that introduce describe the intent of the standard. Forty six percent of the teachers said they wanted to review the other third-party videos that are embedded throughout the module as additional resources. Forty two percent of teachers said they accessed the module multiple times to access or bookmark the sidebar resources. A few teachers said the accessed the components to share them with administrators and colleagues, and also to review the misconceptions.

Supporting teacher collaboration around the standards is a critical component of the modules. We asked teachers to identify the extent to which the collaboration components helped support their implementation of what they learned in the module. The majority of teachers (86%) felt that the face-to-face collaboration helped or helped a lot, but only 40 percent of teachers felt that collaborating in their respective Edmodo group was helpful. The low percentage of teachers who felt the online communication component was helpful may be attributed to the number of teachers actively participating in Edmodo. While there are over 2300 members of the BLAST Math Groups in Edmodo, the number of members in each grade level group range from a low of 36 in the 7th grade group to a high of 208 in the 3rd grade group. It's possible that there is not enough activity in the group for teachers to find it useful.

We know from the embedded survey that teachers find the various components helpful, but we asked teachers to indicate which components increased their understanding of the CCSS for mathematics and which they felt increased their ability to teach the CCSS. The majority of

respondents (81%) felt that the "Videos about Standards" increased their understanding of the CCSS, though fewer (67%) felt that the videos increased their ability to teach the standards. Approximately two-thirds of the respondents felt that the "Misconceptions Resources" increased their understanding (64%) as well as their ability to teach (67%) the CCSS in Mathematics. Over half of the respondents also identified the "Instructional Strategies" and "Sidebar Resources" as module components that increased their understanding of and ability to teach the standards. In addition to these data, the overwhelming majority of teachers agreed or strongly agreed that the module components were engaging (94%) and relevant (96%), and 82 percent of respondents indicated that their expectations that the modules would help them learn the CCSS were met or exceeded. Almost all of the respondents (95%) said they would recommend the BLAST modules to their colleagues.

Table 14. Percentage of Teachers Who Feel BLAST Module Components Increased Their Understanding of and Ability to Teach CCSS for Mathematics

BLAST Module Component	Response Percent	
	Increased Understanding of CCSS	Increased Ability to Teach CCSS
Video about standards	81%	67%
Misconceptions resources	64%	67%
Instructional strategies	62%	60%
Sidebar resources	58%	51%
Face-to-face collaboration	57%	48%
Assessment resources	46%	42%
Questioning strategies	44%	38%
Other videos	25%	23%
Edmodo online collaboration	17%	15%

Teachers Applying What They Learned to Improve Student Achievement

Teachers did not really give examples of how student achievement improved as a result of applying what they learned, but they did express a tremendous amount of enthusiasm and appreciation for having resources and strategies at the ready. Many teachers reported how the misconceptions and instructional strategies presented in the modules helped them reframe their lessons; how the assessment component helped them rethink how they ask students questions; and how the videos provided "just in time" resources for their own review or for

instructional support for their students. Below are some of the responses that teachers provided in reference to how they applied what they learned.

- *I saw that hands on exploration seems to be the intent, and have organized materials for easier access to students for that purpose. .*
- *I found the questioning strategies very useful for getting and showing that there could be more than one correct response.*
- *I have found myself saying different things during place value lessons that after unwrapping the second grade standard realized, I should perhaps teach it differently. I enjoyed the videos. I found them to be very helpful.*
- *As 3rd grade teachers we found that we were teaching the fractions standards incorrectly. The module and standards video were very helpful in breaking down the standard so we understood exactly what we were supposed to teach.*
- *I was able to see common misconceptions of the particular module and was able to adjust my lessons accordingly. This is something I didn't do in the past.*

Positive Feedback about the BLAST Modules

When asked to give positive feedback about the BLAST modules, teachers commented on how they were "user friendly," provided good examples and resources, and that they really appreciated how the face-to-face and Edmodo components supported collaboration. Trainers also weighed in on how useful the modules are in supporting teacher professional development in a group setting. Below are some representative quotes that express the positive comments that teachers and trainers shared.

BLAST Modules Provide Useful/Good Examples
I thoroughly enjoyed the BLAST modules. They were engaging, informative, and helpful. I have more ideas on how to teach topics next year.
The modules are very informative and helpful. It isn't easy to find great examples that include the higher expectations of the common core. The BLAST modules fill this void.
The teachers at my site felt like these modules increase their understanding of how to teach math at a more conceptual level. They knew they needed to change their teaching, and the modules show them exactly how to change their instruction, including giving them the much needed materials.
I like the way BLAST shows the Common Core State Standards and I thought that they were explained very well, much better than the math series we are currently using.

Impact

BLAST Modules Provide Good Resources
I liked all of the resources. We were giving materials and teaching strategies that are not easy to find elsewhere. I also liked working and receiving feedback from other math teachers.
I was excited to finally be pointed in the right direction with the right resources to help me understand how to teach the CCSS in math...There is so much CCSS resources out on the internet, but a lot of it is not rigorous enough for the content we need to teach. The Blast modules helped me find resources that are deep and rigorous.
This is a great resource for learning how to teach each strand. This is especially useful if you are changing grade levels!

BLAST Modules Facilitate Collaboration
It was time well spent. I enjoyed the face-to- face collaboration and learning new ways of teaching the standards.
I like the way everyone comes together to offer suggestions about different ideas for teaching.
It brought out good conversation between grade levels.
Grade levels are watching together!

Summary of Online Teacher Professional Development

Data from the Nevada Teacher Technology Survey indicate a need for more technology and Common Core State Standards-related professional development. Elko County's e4e courses and Clark County's BLAST modules are both resources available to teachers statewide. While over the two-year grant period some teachers from each district took courses or accessed the modules, most of the e4e course takers were from Elko County and Washoe County and the BLAST module users were overwhelmingly from Clark County School District.

The online professional development is highly regarded by those who have taken advantage of it. Regardless of whether either district has the resources to continue developing classes or producing more modules, greater dissemination efforts are needed to ensure that teachers across the state are aware of their availability. e4e courses are offered in fall, winter, and spring at a very affordable $70 per 6-week class. BLAST modules are free and are designed to be accessed anytime/anywhere on a web-enabled device. No logins are required, making it an easily accessible and much needed professional development resource for teachers.

Impact of Using Video/Web Conferencing Equipment

Three districts (Nye County, Washoe County, and White Pine County) used their SETIF grant money to invest in video or web conferencing equipment and software. Nye County purchased the Adobe Connect software that runs on desktop, laptop, and tablet computers. Washoe County implemented the TelePresence point-to-point videoconferencing system and White Pine County purchased Mimio interactive whiteboards to support web conferencing via Skype. The intent of all three districts, in purchasing the equipment was to provide an efficient and economical way to engage their most remote teachers in regular professional development, particularly focused around PLCs that were discussing CCSS implementation. In Nye County the equipment supported ICT staff planning meetings, parent training meetings, and some teacher professional development. District-wide approximately 75 hours of usage was logged. In White Pine County, the Mimios were used more for their interactive whiteboard capability than for videoconferencing. A positive outcome of this is that one school received a $5000 donation that it will use toward the purchase of Mimio boards for every classroom. To increase the use of its equipment, Washoe County expanded the reach of its Activboard Academy and other face-to-face professional development workshops offered through the 21st Century Learning Division. From mid-April through early June 2013, 73 teachers participated, via video conference, in three Activboard, two ActivExpression, five Camp 21, and one Google Docs professional development sessions. Four school sites that were most active in utilizing the videoconference kept logs of their use. Collectively, from November 2012 to April 2013, they logged 85 hours of videoconference use, above and beyond the hours logged for district-provided professional development.

While project directors from each district are not fully satisfied with the extent to which the equipment was used, teachers who were able to participate in virtual PD facilitated by the equipment, greatly appreciated the opportunity to do so. This comment from a teacher in Washoe County exemplifies the intended outcome of districts making this investment:

I was one of the 2 participants from Incline who were able to participate in the mandatory monthly training via distance learning instead of driving an hour each way to come to Reno. It was a GREAT experience to be able to participate in this manner. The amount of time saved was tremendous as I was able to stay on campus longer, needed less substitute coverage for my classes, and I was available to support students at the conclusion of the meeting.

Table 15. Washoe County Videoconferencing System Use by School

School	Videoconference Use		
	Number of Sessions	Number of Hours Used	Objective/Purpose of Activities
Clayton	10	11	• Readers' Theatre • Collaborative activity w/ Cold Springs • Read Across America
Gerlach	39	26	• Speech Therapy • Meetings (grade level, principal, district planning) • MAP Prep
Incline	16	27	• AVID professional development • SPED professional development • Science PLC • Meetings
Natchez	36	21	• Speech Lesson (coordinated with Gerlach) • Music Lesson • Reading Collaboration • Meetings

Teacher Feedback

Ninety one teachers across the three districts completed the feedback survey related to their use of the equipment. Over half of the respondents (58%) reported that they had used the equipment to participate in remote professional development (this includes those who were at the host and the remote site).

Table 16. Respondents to Video/Web Conferencing Feedback Survey by District

District	Frequency	Percent
Nye County	29	32%
Washoe County	52	57%
White Pine County	10	11%

Most of the respondents (n=76) identified themselves as participants in the video/web conference and the others were session presenters from Nye County (n=5), Washoe County (n=4), and White Pine County (n=6).

Feedback on Training Prior to Using the Equipment

In interviewing the three project directors who implemented the video/web conferencing capability in their districts, we found that in most cases training for presenters (i.e., those

initiating and leading a session) was vendor-provided and focused on the "how to" of using the equipment. When asked to provide feedback about the training they had prior to using the equipment, most of the respondents reported that it was "inadequate." This finding is not surprising to project directors as they expressed awareness at how basic the training was before staff started using the equipment. All three districts had hoped that, in addition to video/web conferencing being used to facilitate cross-site professional development, teachers would take the lead on initiating their own sessions to facilitate cross-site collaboration. Project directors are aware that in order to achieve this goal and realize the full potential of investing in this technology, they will have to do more to build the capacity of professional development presenters and teacher-collaborators to understand the nuances of using the equipment, including troubleshooting, as well as understanding how the equipment can be used to support instruction.

Both capacity building efforts are taking place, to some degree, in each of the districts. In Nye County, a teacher at one of the middle schools took the initiative to host a series of technology training workshops for teachers at her school. A Wexford evaluator observed one of these training sessions, and while the session did not include a connection to a remote site, teachers were shown how to set up an Adobe Connect session and given examples of how they could make connections between classrooms in the same school. In moving ahead with facilitating more widespread use of Adobe Connect, the project director said that the district "should take the teachers who are not afraid to use it and have them provide PD in our district." An evaluator also observed a trainer based in Pahrump, connect with teachers at Gabbs School, Nye County's most remote school site, to provide a one hour training to English teachers. This trainer, one of the district's information, communication and technology (ICT) coaches, shared that the training they received was very minimal. As she described it, "Our first and only training was two hours long and it was very much the vendor showing us and we were stumbling along. It wasn't very helpful when it was time to put in place. I had a lot of trial and error. They vendor didn't have handouts. He just showed us. If someone else is going to try and do this, we'd need a manual to go along with it. A lot of my time is trying things and trying to figure them out instead of knowing what I was doing."

As mentioned previously in the report, Washoe County is implementing a "hands-on" approach to supporting use of the equipment by visiting schools to provide them with training and technical support, reaching out to groups of teachers (i.e., AVID and Special Education) to promote the benefits of using the equipment for collaborative purposes, and providing all users with easy access to a comprehensive set of paper and web-based resources. Taking this hands

on approach appears to have made a difference. By the end of the 2012-13 school year, 54% of Washoe Teachers who used the district's point-to-point videoconferencing system, reported that participating in the sessions increased their use of technology to address CCSS and 42 percent reported that they used the equipment with their students.

In White Pine County, the project director feels that, in hindsight, the district needed to reach out to administrators and teachers separately. In rolling out the project, the district worked with school administrators to determine where the equipment should be placed in each school and provided an informal orientation on how to use the equipment. This was done with the expectation that administrators would take the lead in bringing their staff on board and supporting teachers' use of the equipment. As the project director described it, the equipment "went to administrators and then it took awhile to get out to the teachers. It didn't get distributed and pushed...There should have been time at the school sites for administrators to take the lead on getting their staff on board with using it." Reflecting on the outcome that the equipment was not used to the extent intended the project director shared, "I met with administrators many times, but it should have been more formal. [In the future] I would want documentation that [the Mimio's] were distributed, when and to whom. Without that it doesn't always happen the way you want it. Then I would have formal training for the teachers."

Feedback on Presenting/Participating in Video/Web Conference Professional Development

Overall, both those using the equipment to provide professional development, and those participating in the professional development, were satisfied with the technical and logistical aspects of using the equipment. In general, participants were slightly more satisfied with the location where the equipment was set up, the time the session was offered, and the length of the session. This is not surprising given that much of teachers' positive feedback about the video conferencing was related to the convenience of not having to leave their school to participate in training. Fewer presenters (62%) indicated that they were satisfied with the sound quality compared to 81 percent of participants. This is likely due to technical difficulties that some presenters experienced where they had two-way video, but only one-way audio. The evaluator who observed the Nye County Adobe Connect session saw this play out in the training session with Gabbs teachers, and in the follow up interview, the presenter expressed frustration with the audio situation. While they teachers could hear the presenter, she could not hear them talking when she prompted them to discuss a topic. In that case the work around was to have someone type in a summary of the discussion in the shared chat window.

Table 17. User Satisfaction with Video/Web Conference Participation

Statement about Video/Web Conference	Percent Responding Satisfied/Very Satisfied	
	Presenter (n=13)	Participant (n=74)
Location Where the Equipment Was Set Up	77%	82%
Session Time	75%	84%
Session Length	75%	81%
Picture Quality	77%	82%
Sound Quality	62%	81%
Reliability of Connection	75%	74%
Number of Participants	92%	85%
Level of Interactivity among Participants	75%	73%

Overall Feedback on Video/Web Conference Session

We asked session participants in all three districts to provide feedback by indicating the extent to which they agreed with various statements about their experience. The overall feedback is very positive, with 91 percent agreeing or strongly agreeing that it was convenient for them to participate in the session and 92 percent agreeing that participating in the session was a good use of their time. Ninety percent of participants agreed or strongly agreed that the session facilitator actively engaged all participating sites and that they benefitted from connecting with other staff in their district. The majority of participants (88%) reported that they felt comfortable actively participating in the session, but only 58 percent felt that they were likely to make an offline connection with participants from other sites. One very notable response from participants was that 79 percent agreed or strongly agreed that the session gave them an opportunity to participate in Common Core State Standards related professional development to which they would otherwise not have access.

Impact

Table 18. Overall Feedback on Participants' Experience with Video/Web Conference

Statement about Video/Web Conference	Percent Responding Agree/Strongly Agree
It was convenient to participate in the session	91%
Participating in the session was a good use of my time	92%
The purpose of the session was clear	95%
The session structure allowed for interactivity among participants	83%
The session facilitator actively engaged all participating sites	90%
I benefitted from connecting with other teachers/staff in the district	90%
The technical aspects of the session were a distraction to my learning	17%
I felt as connected to other participants as i would in a face-to-face session	65%
I felt comfortable actively participating in the session	88%
I gained as much in the session as I in previous face-to-face sessions	77%
Having participated in the session, I am likely to make an offline connection with the participants from other sites.	58%
The session provided an opportunity to receive CCSS PD that I would not otherwise have	79%

Summary of Video/Web Conference Impact

Among those who utilized the video/web conferencing capability of their districts, the feedback on the experience was very positive, indicating that districts' investment was worthwhile and served the purpose for which it was intended. Now that each district has early adopters who have had positive experiences, project directors in Nye County, Washoe County, and White Pine County are aware that their focus moving ahead must be on addressing the learning curve for late adopters by providing tailored, site-based support for implementation. Nye County and White Pine County, in particular, must also provide more professional development support to those who are utilizing the equipment to provide training. Nye County and White Pine County could also benefit from reaching out to the Washoe County project director to learn more about how that district, through trial and error, proactively addressed its lessons learned about implementing a videoconferencing system to support teacher professional development.

Impact of iPads and Handheld Devices in the Classroom

Elko County

Elko County School District's 1:1 iPad initiative was led by the district's Director of Secondary Curriculum, and supported by the district's Computer Systems Manager and a Technology Training Specialist. Collectively, they provide training and technical support to the teachers in the 1:1 pilot project, as well as conduct regular observations of teachers' use of the iPads. While other districts implemented iPad projects, Elko County's initiative stands out for the level of resources that support its success. The district's three-pronged approach to implementation and sustainability (curriculum & instruction, technical support, and technology integration) provides a level of support not seen in other districts. For example, Pershing County and Washoe County have only one staff person supporting their iPad initiatives, teacher training was limited to Apple provided "how to" workshops and online support, and neither district implemented a data collection plan for teacher accountability.

Though not funded by the SETIF grant, teachers in Elko County's iPad pilot project had the opportunity to participate in 14 professional development workshops. Teachers were supported in learning the basic operation of their iPad and becoming familiar with iPad Apps, how to integrate the district's open-source learning management system, Canvas, with their iPads, and how to develop math and language arts lesson plans. Implementation of the iPad lesson plans are what the project facilitators were evaluating when they did classroom observations, so they were able to gather timely and relevant data on how teachers were applying what they learned in professional development. They also gathered formative feedback from teachers and students in the form of surveys on the ease of using the devices as well as how they were being used. Elko County also developed and maintains a website specifically for teachers in the iPad pilot project that includes links to video resources, workshop schedules, the project's online collaboration space, and other resources and information related to the project.

In a focus group with seven math teachers in the iPad pilot, they shared outcomes such as:

- Students are more engaged in learning
- Students are eager to share what they know and talk about mathematics
- 1:1 iPads facilitate differentiated instruction, particularly in resource classes that provide remediation
- Students are becoming more independent, self-motivated learners

Impact

A real testament to these outcomes is found at Jackpot Combined School, which has only one teacher for all grade levels. Her students are at varying math skill levels and include trigonometry students who did not have basic algebra skills. She used the iPads to differentiate instruction for these students by finding math websites that allowed the students to gain the foundational algebra skills they needed, but to do so at their own pace. She accompanied students' self-paced work with direct assistance and helped move them to a level that allowed them to understand the trigonometry content. Not only was she able to bring along her high school math students to the appropriate skill level, but she also saw that her 7th grade students were motivated by the success of the older students and formed their own study group. The group was supported by the collaboration space provided through Canvas, which allows students to record themselves and share videos that they create. By the end of the school year, these 7th graders were doing high school math work and, because of their collaboration work in Canvas, the teacher also noticed improvement in their writing.

A focus group of five language arts teachers revealed similar outcomes. Those teachers shared that students are incorporating original source material into their writing projects, are benefitting by using Canvas to collaborate with each other, and are gaining a deeper understanding of the content by advancing their typical paper reports into multimedia (i.e., podcasts, videos), multi-source, projects and presentations. Using the iPad to create presentations has sparked students' creative expression and created a voice for typically shy students. An English teacher shared that one of her shiest students, a girl, created a cowgirl persona for a final presentation in which students created podcasts to discuss the topics of alienation, absurdity and existentialism. Another student in the class depicted his interpretation of alienation by creating a video that captured only his mouth moving while he was recording his podcast. The teacher is thrilled by the level of engagement and shared that her principal visited the class while students were working on the projects and expressed his amazement at how all of the students were working independently, staying engaged and on task.

Other examples of how the iPads are being used to support mathematics and language arts instruction were gleaned during Wexford's site visit in April 2013. Figure 3, on the following page, highlights the various ways in which the iPad is being used across content areas and grade levels. Using the iPads to create audio and video files, collaborating with others via Canvas, and using the Internet to search for project resources are some of the ways that students are learning 21st Century skills, constructing knowledge, and mastering content.

Impact

Figure 3. Examples of Observed iPad Use During Evaluator Site Visit

Classroom	iPad Activity
11th English	Students created videos of themselves reading essays that had been revised based on peer review. Content focus was on writing a personal narrative and peer reviewing essays to see how sentence variety is used.
7th English/Reading	Students used Google Drive to write their opinion and respond to teacher prompts about a selection they had just read. Student responses were projected on the SMART Board and students volunteered to explain their responses.
10th/11th Journalism	Students accessed the Internet to read an online article about violence in the media and advertising. They discussed the article via a Canvas discussion group, and the class ended with students taking a quiz on language used in the article.
Geometry	In a lesson on prisms, following the teacher' instruction, students accessed the Internet to find "real world" examples of prisms. Students used Keynote and video to create a presentation defining and explaining what they had found.
6th Math/Science	Students used Screenchomp and Educreations to create videos of themselves using academic language to dissect a mathematical equation.

Utilizing the Technology Integration Matrix, developed by the Florida Center for Instructional Technology at the University of South Florida College of Education, they conducted multiple classroom observations of teachers. The Technology Integration Matrix (TIM), includes five levels of technology integration (entry, adoption, adaptation, infusion, and transformation), which are described within five characteristics of the learning environment (active, collaborative, constructive, authentic, goal directed). During each observation, one of the three project facilitators would document how students were using the iPads and also log teachers' level of integration within each of the five characteristics.

A summary of the Technology Integration Matrix (TIM) observation data shows that, typical of any new technology project, most teachers fall into the "Adoption" and "Adaptation" categories of technology integration for the five characteristics of classroom engagement. The adoption level is characterized by teachers making all of the decisions about what technology is used, when it is used, and how it is used. When teachers reach the adaptation phase, they are still guiding students' use of the technology, but moving into more of a facilitator role. The observations conducted during the site visit support the TIM observation data in that, while

students were actively engaged in using the iPads, the use was teacher-directed (i.e., directing students to participate in the Canvas discussion or requiring them to make a video within teacher specified parameters). A total of 106 observations were recorded for 28 teachers who were observed between one and eight times.

Table 19. Teacher Observations Categorized as Adoption/Adaptation Level of Technology Integration by Characteristics of the Classroom Environment

Characteristics	Percentage of Adoption/Adaptation Level Observations
Active	85%
Collaborative	67%
Constructive	89%
Authentic	74%
Goal-Directed	83%

The extent to which the iPads are used is quite remarkable considering that, like many other districts, Elko County essentially started the classroom implementation of its 1:1 project during the 2012-13 school year. While some teachers are more actively involved in using the iPads as much as possible and some have been frustrated by infrastructure issues that limit the number of students that can be online at any given time, the data gathered from the project facilitators' observations, as well as observations conducted during Wexford's site visit, indicate a level of engagement among every stakeholder group (i.e., district staff, principals, teachers, students) the speaks to the early success of the project.

Teachers' and Students' Perceptions of the Benefits of 1:1 Devices in the Classroom

The project director of the 1:1 iPad project surveyed teachers and students to get their feedback on the project. Both groups provided examples of how they felt each student having a device "enhances the educational process." Overwhelmingly, both teachers and students feel that 1:1 affords students a level of independence and engagement in the learning process. One teacher commented, "When each student has a device they are able to work at their own pace, and go back over material they did not understand. When they are on iPads, they are totally focused on their work." Another teacher shared that when she is "covering a topic I always have a main learning objective, so when I allow the students time to research a topic, I am amazed at how 23 kids can take the same objective and through their own research and level of interest, they create 23 different presentations or final projects that demonstrate the concept

they learned. With the iPads, I have noticed that none of the kids will simply do the minimum research necessary to get a grade, rather they seem more motivated to delve into the material."

From the students' perspective, they primarily like the efficiency that having their own iPad affords. One student shared that, "Having an individual iPad to do assignments is more efficient than hearing the instructions verbally. It helps with the kinesthetic learners, like myself, and I can get an assignment done better if I have the instructions right in front of me. Plus having the Internet and many resources at my disposal with the iPad helps me complete the assignments with less time." Another student said, "It's very nice to have additional online sources of information aside from textbooks, especially when you need to access information quickly. Logging in to laptops, computers, etc. can take a long time, whereas iPads are easier to turn on and access the Internet. Making slide shows, movies, and presentations is easier as well."

Pershing County

Pershing County School District's project director shared that at the end of the 2012-13 school year, the 3rd grade teachers and students were still in the "exploration phase" of learning how to use the iPads. She was aware of teachers engaging in cross-curricular planning and utilizing the iPads to meet the technology integration component of the Common Core State Standards. "Kids were just starting to read their responses and listen to them on playback...and I would just say that [the iPads] allowed our teachers to tackle a subject from multiple angles and that was beneficial to students. Kids are writing about it, making a movie about it, watching a movie about it, sharing it." These are notable outcomes given that the teachers were not supported by formal professional development opportunities and only two teachers were implementing the iPads (one reluctantly, and the other more enthusiastically).

When asked about instructional changes that were made as a result of having the iPad, one teacher responded that, "The ipads are a great resource for me when I want to review or go deeper into a content area. It is so easy to get the iPads out immediately and have additional resources readily available. Some examples of this are math fact practice, additional practice correctly identifying polygons, and finding perimeter and area. One of my favorite apps I have discovered this year is called iTooch and provides CCSS in Language Arts, Math, and Science."

First and second grade teachers continued to use the iPod Touch devices in their classrooms and support each other through self-initiated informal professional development. Having a full class set of iPods has allowed teachers to have centers where students use them "primarily for math skills, and some reading activities." All five of the teachers who responded to the Teacher

Impact

Technology Survey agreed that having access to a class set of handheld devices has contributed to students becoming more actively involved in their learning and that access is enabling students to gain a deeper understanding of content. Four out of five also said that they feel more comfortable allowing students to make decisions about how and when to use technology.

Storey County

We do not have any formal outcome data to report related to Storey County School District's use of the Kunos android devices. Data gathered from mid-year and end-of-year interviews with the project director and the principal at the school where the devices were used indicated that the district went through an exploratory period during which it was trying to figure out the best way to maximize the use of the devices in a small district. As the principal shared, "The learning curve was with us. We had to figure out how to implement them in a small school district, and once we got the hang of it, it went very well." Part of figuring out how they would be used included transitioning them from use in a 5th grade classroom to using them to support language arts in 6th-8th grade. We know anecdotally that students used the devices to access the Internet and to download lessons that teachers created in the associated Curriculum Loft cloud, but we do not have data to report on how often they were used and in what ways the devices supported language arts instruction. The lack of data is primarily due to our understanding that a fully articulated plan of use was still in process, software to support the language arts objective was still being investigated, and therefore, no outcome data were available.

Washoe County

Washoe County's iPad project was not implemented with the same robustness as Elko County. The project provided 1:1 iPads in two middle schools and two high schools, but teachers were minimally supported in their instructional use of the devices. The district maintains an "all things iPad" resource website, but the program did not have the technical, professional development, or evaluation components at the level seen in Elko County. During the evaluation site visit, a Wexford evaluator shared information about Elko County's project components, particularly the observation protocol, as no classroom observations had been made in iPad classrooms as of April 2013. The project director appeared receptive to the idea of reaching out to Elko County's project director for information about the protocol. In an early August 2013 follow up to the site visit, Washoe County's project director shared that she had not reached out to get information from Elko County, but she had visited some of the teacher's classrooms and was able to report that "student engagement was apparent in the rooms I visited" and ".

teachers are really starting to 'bloom' now that they have had more PD." She also credited the evaluator with making recommendations that were being put into action. As she shared with a Wexford evaluator, "Your visit and suggestions really lit a fire under me regarding sustainability of support and building a district-wide community made up of all of the teachers who have participated in any of the various pilots and cohorts from years past. I am exploring various tools to support the classroom visits and we are in the planning/recruitment stage. We will use the videoconferencing system where available to connect teachers/classrooms to each other and for PD."

Despite comparatively limited professional development for its iPad project, there are teachers taking the initiative to create meaningful and engaging learning opportunities for students. During the site visit, a Wexford evaluator was able to observe a 7th grade English and social studies class taught by the same teacher. Interestingly, because of the remote location of the school (two hours from Washoe County's district offices) the observation was conducted using the grant-funded videoconferencing equipment. The observation began as students were transitioning from their English period during which they had been working in groups on an assignment related to "The Swan." The evaluator observed groups using their iPads to work on different stages of the assignment including writing the script for the video they would shoot and conducting Internet research to develop "background narrative" for the historical context in which their story would be told. Though it was not observed, students were planning to use their iPads to shoot a video, reenacting their assigned part of the story.

As the students transitioned to social studies, they continued to use the iPads to access a webquest on Andrew Jackson. Students were again working in groups and each group member had an assigned task, which included gathering pictures of Andrew Jackson from the Internet, and conducting research on the "Jacksonian era." Students were engaged, participatory, and motivated to produce the best work for the highest group and individual grade for the assignment. In the follow up interview after the observation, the teacher shared that 1:1 access creates an environment that allows students to be involved in their own learning. He did express a concern that with 1:1, the group communication dynamic is altered because everyone has a device and they all want to talk/share at the same time. Despite this observation, he does "not want to give 'em back."

White Pine County

The use of iPads in White Pine County School District's high schools was a small, but relevant component of their project implementation. While the district did not formally support an

implementation plan for the iPads, teachers did receive basic professional development that provided an overview of the capabilities of the iPad and suggestions for how they could be used. As stated previously, the project director feels that the use of the iPads at the high schools was the most successful implementation of their use. They set up an iPad Lab in the library at White Pine HS and also made a few iPads available to Steptoe Valley HS students. Not only were students able to use the iPads for projects in the library, 12th graders used them to complete the research and presentation components of their culminating senior project. Six out of 10 teachers agreed that having an iPad in their classroom increased the frequency with which students use technology, seven out of 10 agreed that the iPads enhanced students' experiences as consumers of digital content. Six out of 10 teachers who had iPads also felt that classroom access to iPads was helping students gain a deeper understanding of content; the same number reported that the iPad was primarily used to do Internet research.

The project director feels that the 2012-13 school year was just the beginning of teachers realizing the possibilities of how the iPads can be used to enhance instruction. Teachers primarily used the iPad as a productivity tool, accessing the Calendar, Notes, Email, and Safari web browser most frequently. The project director is hopeful that now that teachers have buy-in, mainly attributed to the outcomes seen from the seniors using them for their Nexus Project, the iPads will be used in increasingly more innovative ways.

Summary of iPad/Handheld Devices in the Classroom

The possibilities of what can happen in a classroom when every student has his or her own handheld device are seemingly endless. But to realize these possibilities requires at a minimum (1), a good deal of upfront planning about how the devices will be used, (2) understanding the affordances and limitations of their use, and (3) ongoing professional development for teachers that progresses from "how to" skills training to training that focuses on how the devices can support student learning by facilitating their ability to not only consume but also to create content. Elko County's iPad project is an exemplar of implementing a 1:1 handheld project. Admittedly, Elko County has the human resource capacity to provide the "wrap around" support (curriculum & instruction, technical support, and technology integration) that is the cornerstone of the project's success. While other districts implementing 1:1 handheld projects may be limited in their ability to provide professional development, as they move ahead with their projects, they could benefit from Elko County's lessons learned related to the time and effort it takes to thoughtfully plan, reflect and revise the implementation of a 1:1 project.

Impact of 1:1 Netbook Projects

Lyon County

As previously mentioned in this report, Lyon County's implementation of its 1:1 netbook program at Fernley Intermediate School (FIS) was beset with a series of circumstances beyond the district's control that resulted in a limited window during which students and teachers actually had Internet-connected computers in the classroom. While losing Internet connectivity in early 2013 could have greatly halted instructional use of computers in the classroom, at FIS, it did not. Based on interviews with the school principal, the principal's secretary who managed the school's netbook program and provided technical support, interviews with teachers, and informal discussions with students, the enthusiasm for and optimism about what could be accomplished when every student has his or her own computer was barely diminished, if at all. While the district-based project facilitators expressed frustration with all of the issues that prohibited a roll out of this project on the proposed timeline, the 1:1 project, limited though it was during the funded grant period, appears to have had a tremendous impact on students, teachers, and parents. As one teacher shared, "It was like that most of the year, either we had connectivity issues or we lost our eRate. Our students knew they couldn't get on the Internet a lot, but they still really enjoyed having [the netbooks]. It was better to have one with out Internet service than to not have one at all."

The reader can imagine that perhaps teachers, more so than students, would be discouraged and lose enthusiasm for implementing a 1:1 program when the computers arrive in Year 2 of a two year grant, problems with the installed software further delay use of the computers because they have to be re-imaged, Internet connectivity is not consistently available in all buildings and all students can't be online at the same time, and then the entire school loses Internet connectivity for the second half of the school year. But that is not the case at Fernley Intermediate School. Though teachers are using the computers to varying degrees and are in need of more technology-related professional development, the netbooks are being used in all classrooms. This appears to be attributable, in part, to teachers' awareness and appreciation that their school and district support them. As one teacher shared, "The school is really good. Our librarian has taken the lead on checking them in an out. Our secretary takes charge of keeping them updated. It wasn't a teacher problem to deal with. The school was very supportive. We had AT&T in here three times doing walkthroughs and checking the [cellular] signal. There were some hurdles and I thought they were pretty well handled. It could have been worse because in some parts of the school the connections were bad, but our voices were heard and I think [addressing the problem] was done well." Speaking to the level of support

they received, another teacher said, “At the beginning of the year we had connectivity issues. Some teachers were apprehensive about letting kids take them home. But [our principal] and [secretary] were very good about getting support for us and our Librarian has been good about helping with any issues she can work on her end. She has helped with keeping track of the computers. I'm excited to see where we'll go next year.”

In discussing how every student having a computer helped him differentiate instruction, one teacher shared that, “before I had to assess them all the same way. For instance I would give them all the same worksheet like adding fractions. Now they can make models and show me how they would add a fraction. Instead of meeting my expectations, they were able to exceed them. For the gifted students they really excelled in that. They were showing me how to do things.” During the time the school had Internet connectivity, teachers shared that students went online regularly to access programs such as BrainPop, CoolMath, TenMarks, Study Island, Ticket to Read, and Criterion Writing. These programs were used for reinforcement and remediation. Teachers shared that they liked the ability to give students specific assignments in the various programs based on what they knew from MAPS Assessment data were students’ deficiencies. The TenMarks math program is specifically designed to align with MAPS assessment data, as is Study Island, which allows students to work at their own level. “For our high learners we were able to give them specific assignments in Study Island. Some other kids could redo assignments multiple times and work at their own pace. They had as much time as they needed.” Teachers also used the netbooks to facilitate students taking Accelerated Reading tests. Prior to having a computer for every student, a line would form in the classroom for students to access one computer on which they could take their AR test or they would have to wait to go to the computer lab to take the test. “When we had the Internet they could keep up with their AR goals and they could take the test as soon as they finished the book and didn't have to wait to get to the computer lab.”

When asked to discuss the impact that having their own computer had on students, teachers talked about how “their faces light up” because “they have something of their own. They can show their parents. They are excited to show their parents they earned a blue ribbon in Study Island or passed a fluency test in Ticket to Read.” Another teacher commented, “They are definitely more excited about the content and how they are going to show what they know. We did a PowerPoint presentation on how to multiply fractions. I thought it was going to be tough, but on one of the slides they had to show how the multiplication of their fraction worked with a model. I was pleased with how they grasped the concept and were able to show their understanding. It was very impressive.” Another teacher shared, “I think the biggest impact has

been across the curriculum in reading, writing, and math. They did a big state report. They had to research, outline, write the report and cite their references. That was a big one." Teachers also commented that students' "ownership and buy in to what they are completing has increased…they will spend more time revising their writing on the netbook than with paper and pencil."

The computers continued to be used regularly throughout the year, but the focus changed from students using online programs to using productivity tools in the Microsoft Office suite (i.e., Word, Excel, and PowerPoint). Students' projects transitioned from paper posters to PowerPoint presentations, they used Excel to graph data collected in their math class, and they used Word in school and at home to improve their writing. To illustrate how the netbooks facilitate implementation of the CCSS, one teacher commented, "One of the 5th grade standards says they have to type a two page paper in one sitting. I didn't have to do that until high school. That's where having the netbooks is useful. We've been doing some practice on keyboarding. It's not meeting the standard but it's helping us get there."

Student Feedback

Over 450 students completed the Student Technology Survey and provided feedback about their use of the netbooks. Over half of the students (55%) reported that on average, they used their netbooks at school three days per week. Another 21 percent said they used their netbook four or five days per week. When they used the computer, the majority of students(64%) said that it was primarily used during reading and (69%) said they were used for less than half of a given class period.

Most students (78%) reported that they took their netbook home regularly, ranging from 46 percent of students indicating that they took their computer home one to two days per week to 21 percent indicating that they took it home four or five days per week. Among the students who took their computer home, most of them (46%) used it for less than an hour, 31 percent used it for an hour, 10 percent used it for two hours, and 12 percent used it for 3 or more hours per night. Selecting among available response options, many students reported using the netbook at home to access many of the programs that were available to them at school. These include Ticket to Read (66%), Study Island (61%), and Cool Math (54%). Students also reported that they used the netbooks at home to work on writing assignments (54%) and PowerPoint presentations (41%).

In informal interviews conducting during the site visit, 5th grade students shared what they liked most about having their own netbook computer. Students expressed pride of ownership

and identified the ability to work at their own pace and the efficiency of word processing over hand writing as benefits to having their own computer. One student shared, "I don't get to use a computer at home a lot and it's easier to do school work on it. Usually we had to write on paper but when we're doing a writing project we can type it out and that's easier."

5th Grade Students' Comments about Using the Netbook
If we didn't learn class stuff we could use Study Island or go to Ticket to Read and do our tasks. With the writing it's a lot easier than having to write out our story.
I liked to do everything on our own pace when we had the computers. And I liked going onto the different sites that we had. I like typing our stories on Microsoft Word better than writing our stories because then we could revise, but the computer helped with spell check and grammar check.
[I liked] pretty much everything. It felt nice to have something that you try to take care of it and if you take care of it you can have it again and again. But then it [the Internet] stopped working. But it was nice to have our own little world. When you go home and you're mad you can go on Word and type that you're so mad and then you can delete it all. You can play CoolMath so you can play games and on most of the games you can go and actually do some math on there. And on Learn4Good it's still kind of school work but you're having fun doing it.
I really liked it because every night if you finished your homework you could relax and play games. I like having a laptop because I don't have a phone or anything so it was fun.
I liked it because if you're doing an AR test you can just go on. On Study Island if you have an assignment on there you can just get on the computer and do it. Then you can get your flash drive and save what you did.

Data gathered from teacher interviews conducted during the May 2013 site visit speak to the impact of the project and suggest that the school has established a strong foundation upon which to realize the full potential of its 1:1 program. The school received credit for its unused eRate funds during the 2012-13 school year; this credit will support Internet connectivity in the 2013-14 school year and the connection will still be provided by AT&T's cellular service. Beyond that, the district is focused on moving to a wireless solution, but has concerns about how to fund it. They are hoping to get funding from the school board, but also need eRate funds and the concern is that most of the eRate funds are allocated toward priority one service (which funded the AT&T cellular service), limiting the funds available for priority two service (i.e., wireless density).

Impact

Lincoln County

The SETIF grant supported the third and fourth year of Lincoln County School District's 1:1 netbook program by providing funds that paid the salary of a part-time computer technician. Over the course of four years, the district expanded from having netbooks for all teachers and students at one middle school to managing over 400 netbooks for teachers and students in grades 4-12. Throughout the implementation of its FY10-FY11 SETIF grant, the district found itself short-staffed to meet the technology integration and technical support needs of a 1:1 laptop project. In fact, the two part-time Technology Integration Specialists hired to support teachers' instructional use of the netbooks, found themselves spending more time addressing teachers tech support needs than they did helping them integrate technology into their curriculum.

In the August 2012 Interim Report of the SETIF grant, Wexford reported that hiring a part-time computer technician afforded the Technology Integration Specialists(TIS) the ability to focus on supporting the instructional use of technology, which was the intended outcome of the district's grant. At the end of the second year of the grant, the district has found that a part-time technician is not sufficient to meet its needs and has decided to hire a full-time technician, who beginning in the 2013-14 school year, will replace both the grant-funded part-time technician and the two part-time Technology Integration Specialists. In acknowledging the "tough choice" the district had to make in terms of replacing the TIS with a full-time technician, the project director said, "I wouldn't do anything different. In terms of having [the TIS] it was definitely a big thing in helping us be successful. But they have done that and teachers are using [the netbooks] now." Moving ahead, the district is focused on keeping the netbooks in students' hands by reducing the amount of down time they are out of the classroom for maintenance and repairs; thereby increasing the amount of time they are available for teaching and learning. They are counting on the investment in a full-time technician to achieve this goal.

Summary of 1:1 Netbook Projects

Implementing a 1:1 laptop project is a tremendous undertaking regardless of the resources available to do so. The tasks associated with implementing and maintaing a 1:1 project become even more daunting when you consider that small districts such as Lincoln County and Lyon County do not have the human resource capacity to address the technical support, project management, and professional development support that such projects require. Wexford has the benefit of documenting Lincoln County's implementation of its 1:1 project during the FY10-FY11 funding cycle. In documenting Lyon County's project implementation for the FY12-FY13 funding cycle, the similarities in the implementation experiences of these two resource poor

districts is remarkable. It is also remarkable how, in spite of being resource poor, both districts adopted an "all hands on deck" approach to ensuring that laptops were in teachers and students hands and were supporting teaching and learning in the classroom.

For both districts, in their initial roll out, the time it took to image the computers was a major setback to getting the computers into the classroom. Providing maintenance and troubleshooting support for the laptops takes tame and requires a dedicated person that neither district had available. In the absence of dedicated person, each district offered small stipends for someone in the district who already has a full time job to provide this support. In Lincoln County it was a teacher and in Lyon County it was the school secretary. In both cases the person receiving the stipend logged literally, hundreds of in-kind hours for which they were not compensated. And each district is aware that if these people had not done so, the implementation of their respective laptop projects would have been crippled.

Professional development for 1:1 projects is critical. Lincoln County planned to provide teachers with instructional support and wrote in two part-time positions in their FY10-FY11 grant. In theory it was a good idea, but in practice the Technology Integration Specialists were utilized more for tech support than for instructional support. Realizing the great need for technical support and hoping to ensure that the TIS were available to support technology integration, Lincoln County focused its FY12-FY13 on a part-time computer technician. Doing so achieved the desired outcome, but as the district's project expanded from two grade levels into nine, the need for a full time technician was apparent. Beginning with the 2013-14 school year, teachers will not have access to a dedicated instructional technology support person. Lyon County provided a modest amount of training at the beginning of the 2012-13 school year, but teachers in both districts need more professional development, particularly given their need to understand the technology-related experiences embedded in the Common Core State Standards.

The real take away about the 1:1 laptop projects is that the implementation and sustainability of such projects require more resources then SETIF grant provides. Both districts have found ways to make it work, but could have benefitted from additional funding that would have supported all aspects of the project (i.e., devices, tech support, and instructional support).

Impact of Infrastructure and Hardware Investments

Carson City

Carson City School District used grant funds to replace computers in the labs at three elementary schools, two middle schools, and one high school. The primary purpose for replacing the computers was to establish a stable computing environment to support the transition to administering state accountability tests online; secondarily, the new computers were intended to support teaching and learning. A review of the computer lab sign up sheets that the project director provided to Wexford show that across all schools that received computers (Fritsch Elementary, Mark Twain Elementary, Seeliger Elementary, Carson Middle School, Eagle Valley Middle School, and Carson High School), the labs were in constant use through out the school year.

Approximately 50 teachers from all five schools that received computers completed Wexford's Nevada Teacher Technology Survey. Among those who responded, 39 percent reported that they take their students to the computer lab at least once a month. Another 14 percent take their students twice per month, and a combined 29 percent of teachers take their students to the computer lab one to three times per week. Teachers reported that students are primarily using the computer lab for test taking (52%), creating projects (52%), Internet searching (48%), test preparation (21%), and remediation (13%). Elementary students also use the lab to take their Accelerated Reader quizzes, practice keyboarding skills, and attend their regularly scheduled computer class.

While just over half of the teachers who responded to the survey (56%) agreed or strongly agreed that having access to new computers in the lab increased their use of technology to address the Common Core State Standards, the majority did agree that the new computers enhanced their students' experiences as consumers (72%) and producers (70%) of digital content. Other impacts that teachers associate with having access to new computers include being able to better differentiate their instruction (62%), feeling more comfortable about allowing students to make their own decisions about how and when to use technology (70%), having an increased interest in participating in more technology-related professional development (72%), and having an increased interest in collaborating with other teachers regarding the use of technology in the classroom (77%). Student related outcomes included teachers' agreement that students are becoming more actively involved in their learning (65%), gaining a deeper understanding of content (66%), and increasingly using technology to express their understanding of the content (63%).

Table 20. Carson City School District Teachers' Feedback on Outcomes Related to New Computers

	Percent Who Agree/ Strongly Agree
Increased the frequency with which students use technology.	64%
Enhanced students' experiences as consumers of digital content.	72%
Enhanced students' experiences as producers of digital content.	70%
Increased your use of technology to address the CCSS.	56%

Churchill County

Churchill County set up thin client computer labs in three of its elementary schools and its junior high school. The primary intent of setting up the labs was to build capacity for the district to administer online student assessments. As stated previously in this report, the district achieved this goal by using the labs to administer the Nevada State Writing Assessment to all 5th and 8th graders. We have also included elsewhere in this report a summary of the delays that resulted in most of the thin clients not being deployed until spring 2013, well into the second year of the grant. While instructional use of the labs was limited, Wexford did gather some feedback from teachers(N=42) from Numa Elementary and Best Elementary. Only one teacher from Churchill County JH responded to the Nevada Teacher Technology Survey and there were no respondents from Lahontan Elementary.

Not surprisingly, 81 percent of those who responded indicated that they used the computer lab for test taking. Among those who take their students to the lab, the majority 54% reported doing so once or twice per month, with others reporting using the lab once a week (17%) or three or more times per week (10%). In addition to using the lab for test taking, students are also using the thin clients to create projects (51%), conduct Internet searches (46%), test preparation (32%), creating slide presentations (27%), and for remediation (22%).

Most of the teachers who responded to the survey agreed or strongly agreed that having access to the new thin client computer lab increased the frequency with which students use technology (85%) and enhanced students' experiences as consumers of digital content (81%). Fewer teachers (75%) felt that having access to the new computers enhanced students' experiences as producers of digital content, but that is likely due to the fact that the new computers were not in all of the schools for most of the 2012-13 school year.

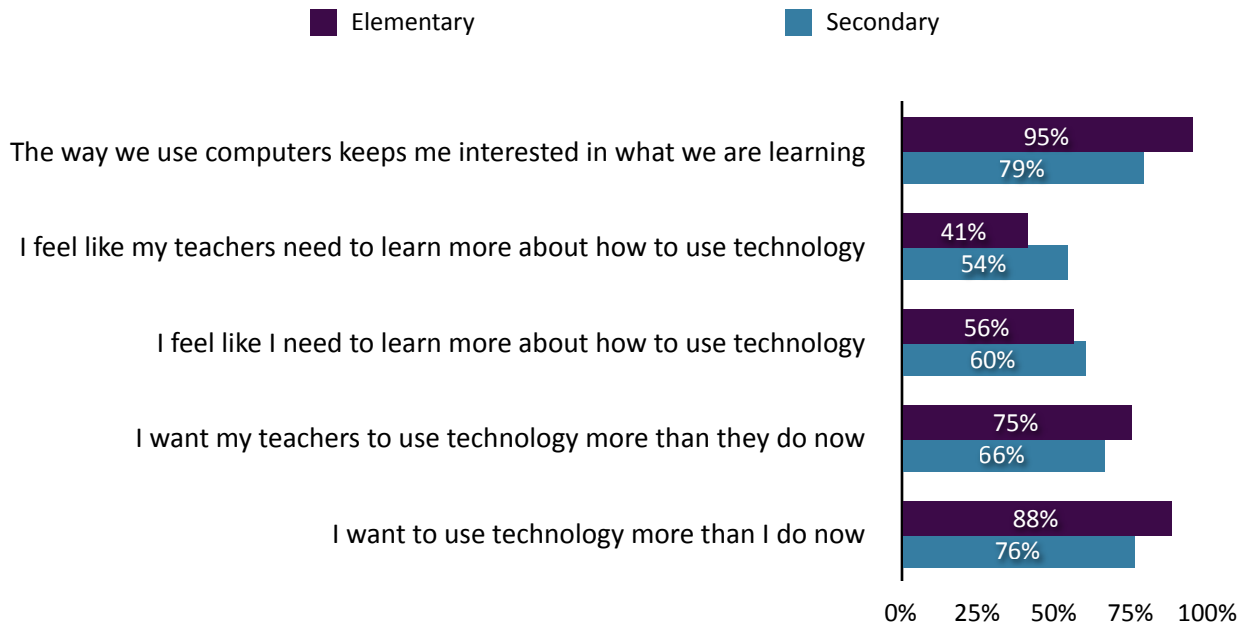
Impact

Table 21. Churchill County School District Teachers' Feedback on Outcomes Related to New Computers

	Percent Who Agree/ Strongly Agree
Increased the frequency with which students use technology.	85%
Enhanced students' experiences as consumers of digital content.	81%
Enhanced students' experiences as producers of digital content.	75%
Increased your use of technology to address the CCSS.	55%

Churchill County was one of the school districts in which we collected student survey data. Over 575 elementary students completed the paper (or elementary) version of the survey, and 209 students completed the secondary version of Wexford's Nevada Student Technology Survey. Almost all elementary students (95%) and the majority of secondary students (79%) indicated that they like how computers are used at their school.

Figure 4. Churchill County School District Students' Feedback Related to Using Computers



* Percentage of elementary students who responded "Yes" or "A Little," and secondary students who responded "agree" or "strongly agree."

Figure 4 shows the percentage of elementary students who responded "yes" or "somewhat" compared to the percentage of secondary students who responded "agree" or "strongly agree" to the same statements. Students do not feel that they or their teachers need to learn more about *how* to use technology as much as they feel that they want their teachers to *use*

technology more (75% elementary students compared to 66% secondary students). Most students (88% elementary students compared to 76% secondary students) also reported that they would like to use technology more.

Douglas County

The SETIF grant allowed Douglas County School district to build a wireless computing network that the project director calls, "robust and ready for SBAC testing." Because the full implementation and testing of the network took the better part of the two-year grant period, outcome data are limited. Wexford did, however, receive data from the 147 educators (representing every school in the district) who responded to our Nevada Teacher Technology Survey.

The majority of those who responded to the survey (75%) reported that they use technology as part of their instruction three or more times per week, and 50 percent reported that their students use technology as an instructional tool three or more times per week. Given that teachers at most schools have, at a minimum, only participated in diagnostic tests related to setting up the network, it is not surprising that few teachers attribute any changes in students' use of technology to the wireless network. Only 60 percent of teachers agreed that the wireless network increased the frequency with which students use technology, and even fewer agreed that wireless access had enhanced students' experiences as consumers of digital content (58%) or producers of digital content (49%). Moving into the 2013-14 school year, in addition to having the capacity to administer online student assessments, the project director is hopeful that the network will lead to an increase in students' use of mobile technologies such as iPads and other handheld devices.

Esmeralda County

Due to issues discussed in Part Two of this report, Esmeralda County School District did not implement its planned project during the grant funding period. As such, there are no outcome data to report.

Humboldt County

The purchase of 255 laptop computers had a tremendous impact on the teachers and students at the three elementary schools and one middle school that received them. As one teacher shared, because they have laptops, "research projects are much easier and take less time as we can do the research in the classroom." Another teacher shared that, "the laptops have been a great addition in our classroom and are being used on a daily basis for reading, math, and

science. The students learned to use the laptops and care for them very quickly and have placed great value on having them in the classroom." Teachers also mentioned that having laptops in the classroom facilitates students working at their own pace in programs such as A+ Learning as well as supports students being more engaged in the writing process because they are able to word process and revise their drafts, rather than hand write them.

About 80 teachers responded to the Nevada Teacher Technology Survey, and 80 percent of them reported that they and their students are using the laptops at least once per week. Sixty three percent and 58 percent, of teachers and students, respectively, are using the laptops three or more times per week. In addition to these outcomes, 80 percent of teachers report that having the new laptops is supporting their exploration of innovative uses of technology, and 75 percent feel that they are better able to differentiate instruction by using the laptops. The majority of respondents (84%) also agree or strongly agree that having the laptops has contributed to students becoming more actively involved in their learning, and that using technology is helping students gain a better understanding of the content (74%).

Table 22. Humboldt County School District Feedback on Outcomes Related to New Laptop Computers

	Percent Who Agree/Strongly Agree
I spend more time planning technology-integrated lessons	63%
I am exploring innovative uses of technology that are applicable to my content area	80%
I am better able to provide differentiated instruction	75%
I have an increased interest in collaborating with grade level/content area colleagues regarding the use of technology in the classroom	82%
Students are becoming more actively involved in their learning	84%
Use of the technology is enabling students to gain a deeper understanding of the content	74%
Student are increasingly using technology to express their understanding of the content	64%

Students' Use of Laptops

Students used their laptops to log 64,750 hours of A+Learning usage during the 2012-13 school year. This is a 44 percent increase over the 45,014 hours of use logged during the 2011-12 school year. A+ Learning was used by credit deficient 8th graders, particularly in the district's remote school sites that have a high teacher turnover, and subsequently a cohort of new K-8

teachers who value access to A+ Learning that helps support the learning curve that comes with addressing the instructional needs of a multi-age/multi-grade classroom. A total of 115 courses were completed by students at McDermott Junior High and McDermott High School, 274 courses were completed by students at Lowry High School, and Winnemucca Junior High School students completed 124 courses. Each course completion is the equivalent of 1/2 credit. Humboldt County School District provided MAPS Assessment data for 1st - 4th graders that show student achievement gains. These data are presented in Part Four of this report.

Lander County

While seven teachers from Battle Mountain Junior High, where new grant-funded computers were installed, responded to Wexford's Nevada Teacher Technology Survey, only three of the respondents indicated that they were aware that the school received new computers. As we were unable to contact the district's Superintendent during spring 2013 when we were conducting interviews, we do not have any context within which to discuss this finding, and therefore, have no outcome data to report for Lander County School District.

Mineral County

By replacing the computers in all of its school's labs, teachers and students in Mineral County now have confidence in the stability of their computing environment. Before they were replaced, students were using computers so old that they would shut down within five minutes of being turned on. In fact, one teacher shared that because of the new computers, she can "test more students without getting kicked out" and another teacher shared that she is "able to take some projects to presentation levels of completion more readily." Another teacher shared that now that she can rely on the computers, she has started "pre-teaching" her lessons with a classroom demonstration on the SMART Board and then taking the class to the computer lab "where the students can implement their use of the computers to follow through with the lesson." In addition to replacing computers in the labs, the district also purchased laptop computers for its teachers.

Twenty three teachers, representing all three of the district's schools, responded to the Nevada Teacher Technology Survey. Among those who responded, 70 percent reported that they use their new computer three or more times per week and another 24 percent report using it once or twice per week. Over half of the teachers (59%) reported that they take their students to the computer lab at least once per week, with 27% of those indicating that they go to the lab three or more times per week.

Impact

Most of the teachers (77%) agree that having the new computers increased the frequency with which students use technology, but fewer teachers (69%) were willing to make a connection between the new computers and students' experiences as consumers and producers of digital content. They majority (90%) did, however, agree that because they had access to new computers they were exploring innovative uses of technology and were increasingly interested in collaborating with other teachers about integrating technology into the classroom.

Table 23. Mineral County School District Feedback on Outcomes Related to New Computers

	Percent Who Agree/Strongly Agree
Increased the frequency with which students use technology.	77%
Enhanced students' experiences as consumers of digital content.	69%
Enhanced students' experiences as producers of digital content.	69%
Increased your use of technology to address the CCSS.	69%
I am exploring innovative uses of technology that are applicable to my content area	90%
I am better able to provide differentiated instruction	76%
I have an increased interest in collaborating with grade level/content area colleagues regarding the use of technology in the classroom	90%
Use of the technology is enabling students to gain a deeper understanding of the content	71%

Summary of Infrastructure and Hardware Investments

Supporting districts' capacity to provide their teachers and students with a stable and reliable computing environment (via infrastructure or hardware) is a good investment. Every district that put new computers in classrooms or labs or upgraded their computer network, was satisfied with what the grant allowed them to do. When we look at teachers' feedback on the outcomes of the investment, we see high percentages of teachers agreeing that they are doing more exploration into varies ways to utilize technology in the classroom, they are increasingly using the technology to differentiate instruction, and the are spending more time planning technology-integrated lessons. Many teachers are energized by the new technology and are expressing an interest in more professional development as well as an interest in collaborating with their peers regarding the use of technology in the classroom.

Impact on Students: Results from Nevada Student Technology Survey

Students in grades ranging from 3-12 in Churchill, Elko, Lincoln, Lyon, and Washoe County completed feedback surveys on their use of grant funded technology. Students in middle school/junior high and high school grades 6-12 took online surveys that were hosted on Survey Monkey. Elementary and Intermediate School students in grades 3-6 completed paper surveys that were administered by the project directors and returned to Wexford. The overlap in some 6th grade students taking the online versus the paper version of the survey is due to the fact that we chose to administer the "elementary student" version of our survey to the 5th and 6th grade students enrolled at Fernley Intermediate School in Lyon County. Sixth graders who took the online version of the survey were enrolled in Churchill County and Elko County junior high schools. There were two versions of the survey because Wexford typically does not administer online surveys to elementary school students. For the purposes of simplifying the distinction between the two versions of the survey, we will refer to them as the "elementary survey" (paper version) and the "secondary survey" (online version).

Respondents

A total of 1091 students completed the "elementary" version of our survey. These include 577 students from Churchill county (53%), 21 students from Elko County (2%), 23 students from Lincoln County (2%) and 470 students from Lyon County (43%). Of those who responded, 53 percent were female and 47 percent were male. The respondent breakdown by grade was 19 percent 3rd graders (n=210), 22 percent 4th graders (n=236), 37 percent 5th graders (n=408), and 22 percent 6th graders (n=236).

Over 1400 students responded to the Secondary Student Survey. The greatest number of responses was from students in Elko County who participated the district's iPad project. Of the 711 students in Elko who responded to the survey, 293 were middle school/junior high students, 352 were high school students, and the others (n=41) attended an Intermediate, Combined or K-12 School. Over 400 students from Washoe County completed the survey, 162 of those were students who provided feedback on the use of ActivBoards in their classes, and 244 were students who participated in the district's iPad project. Eighty nine junior high and high school students from Lincoln County completed the survey. Disaggregated by grade level, 60 percent were middle school/junior high students.

Impact

Table 24. Number of Respondents to Elementary and Secondary Student Survey by District

District	Survey	
	Elementary	Secondary
Churchill	577	200
Elko	21	711
Lincoln	23	89
Lyon	470	-
Washoe	-	406
Total	**1091**	**1406**

Table 25. Number of Student Survey Respondents by Grade

Grade	Frequency	Percent
3rd	210	9%
4th	236	10%
5th	408	16%
6th	357	14%
7th	373	15%
8th	348	14%
9th	196	8%
10th	191	8%
11th	56	2%
12th	110	4%

Students' Technology Skills

Students used a 4-point Likert scale to indicate if they felt their technology skills were at the "beginner," "average," above average," or "advanced" level. Over half of the students (53%) identified as "average." While, overall, the majority of students rated their technology skills average (53% of elementary students and 55% of secondary students), across all grade levels, girls were more likely than boys to report that their technology skills were "average." On the Elementary Survey, 57 percent of girls reported their skills as average, compared to 48 percent of boys, and statistically, this difference was found to be significantly different. The difference on the Secondary Survey was also found to be significantly different, where 64 percent of girls, compared to 46 percent of boys identified their skills as average.

Figure 5. Students' Self-Reported Technology Skill Level

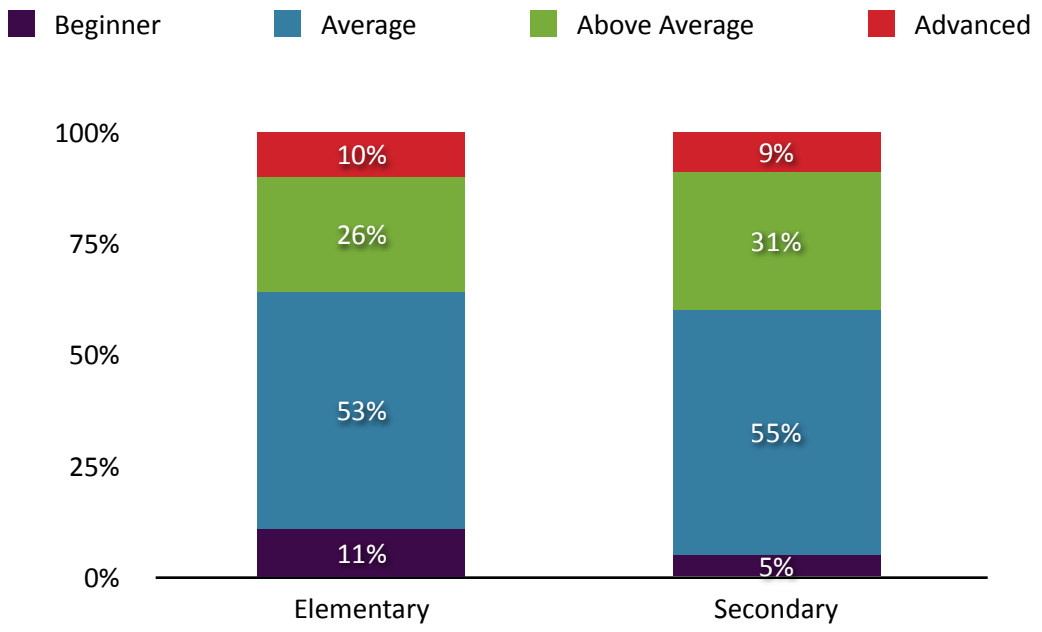


Table 26. Students' Technology Skill Level by Gender

Survey	Gender	Skill Level			
		Beginner	Average	Above Average	Advanced
Elementary	Girls	11%	57%	23%	9%
	Boys	11%	48%	29%	12%
Secondary	Girls	6%	64%	23%	7%
	Boys	4%	46%	39%	11%

The data in Table 26 show that 41 percent of elementary school aged boys compared to 32 percent of elementary school aged girls consider themselves to have above average or advanced technology skills. The difference jumps tremendously among secondary school aged students, where we find that 50 percent of middle school/junior high and high school boys, compared to just 30 percent of girls at the same grade level, consider their technology skills to be above average or advanced. Districts can use these data (be they real or perceived), to take note of any differences in students' technology experiences (whether they be by circumstance or design), and proactively strategize to decrease this gender gap.

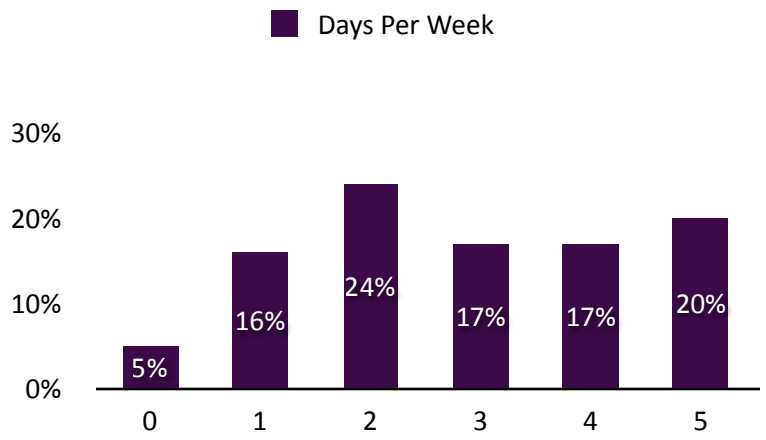
Impact

Technology Use

Typical Number of Days Technology is Used in a Given Week

We asked students to report on how often they get to use their grant-funded technology in a given week. Less than one quarter of the students (21%) reported that they typically don't use technology in a given week or only use it once per week. It should be noted that the small percentage of students (5%) who selected "zero" as their response to the question were not indicating that they never use technology, rather, they were indicating that typically, in a given week, they are not using the grant-funded technology. The responses were fairly equal between the percentage of students who reported that they use technology two or three times per week (41%) and those who said they use it four or five times per week (37%). Among elementary school students, when disaggregated by grade level, more 4th graders (38%) reported using their grant-funded technology five days a week, compared to 3rd graders (27%), 5th graders (12%), and 6th graders (0%). There was also a statistically significant difference between the percentage of middle school students (56%) compared to high school students (33%) who reported using their grant-funded technology four or five days per week.

Figure 6. Typical Number of Days Students Use Technology During a Given Week



Amount of Time Students Spend Using Technology

Elementary school students and about 20 percent of secondary students responded to a question (n=888) reported on the amount of time they use technology in a given class period, selecting from the response options "less than half of the class period," "about half of the class period," "more than half of the class period," and "most or all of the class period." Over half of the students (55%) reported that when they are using technology, they are typically using it for most or all of the class period. Only 10 percent of students responded that they use technology for less than half of a given class period.

Impact

Lyon County students from Fernley Intermediate School (n=456), who had all day access to netbook computers, were asked to report on how much time during the entire school day they use their computers. The majority of FIS students (69%) reported that they used their netbooks less than half of the school day and another 25 percent reported that they used them about half of the school day.

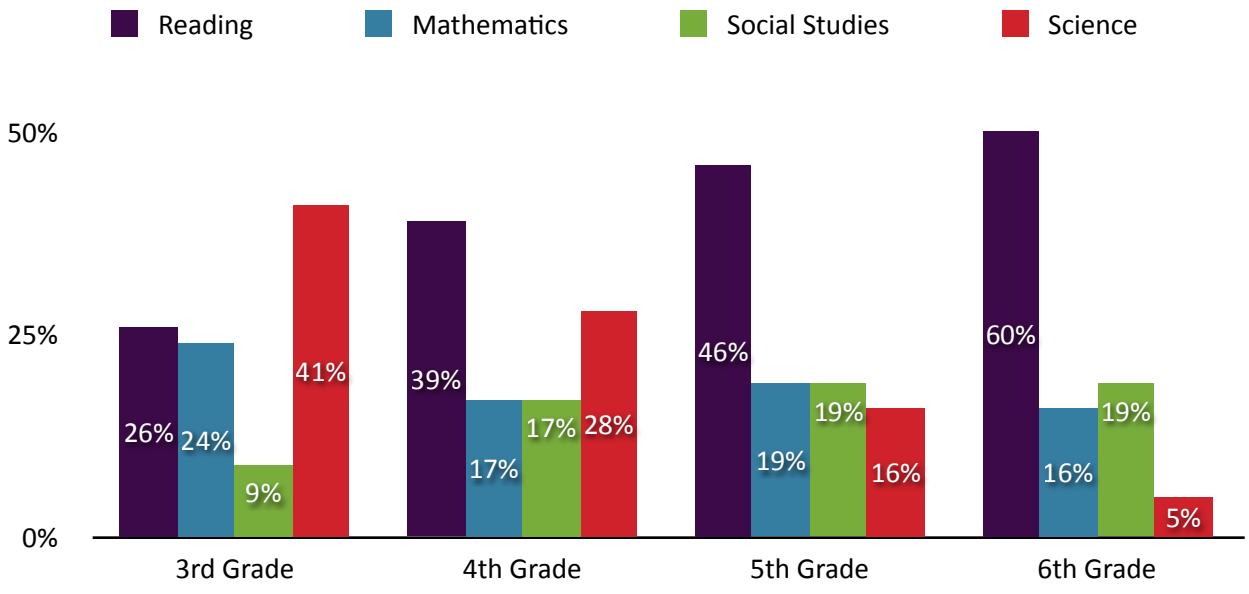
Table 27. Amount of Time Students Use Technology in a Given Class Period

Time Spent Using Technology	Response Percent
Less than half of the class period	10%
About half of the class period	21%
More than half of the class period	14%
Most or all of the class period	55%

Subject During Which Students Use Technology the Most

The majority of elementary school students (44%) reported reading as the subject during which they used their grant-funded technology the most, followed by mathematics (19%), social studies (17%) and science (21%). More 6th graders (60%), compared to 3rd-5th graders, reported using technology most during reading; and 3rd graders(41%) were more likely than students in grades four through six, to report that they used technology most during science.

Figure 7. Subject During Which Elementary School Students Use Technology the Most



Impact

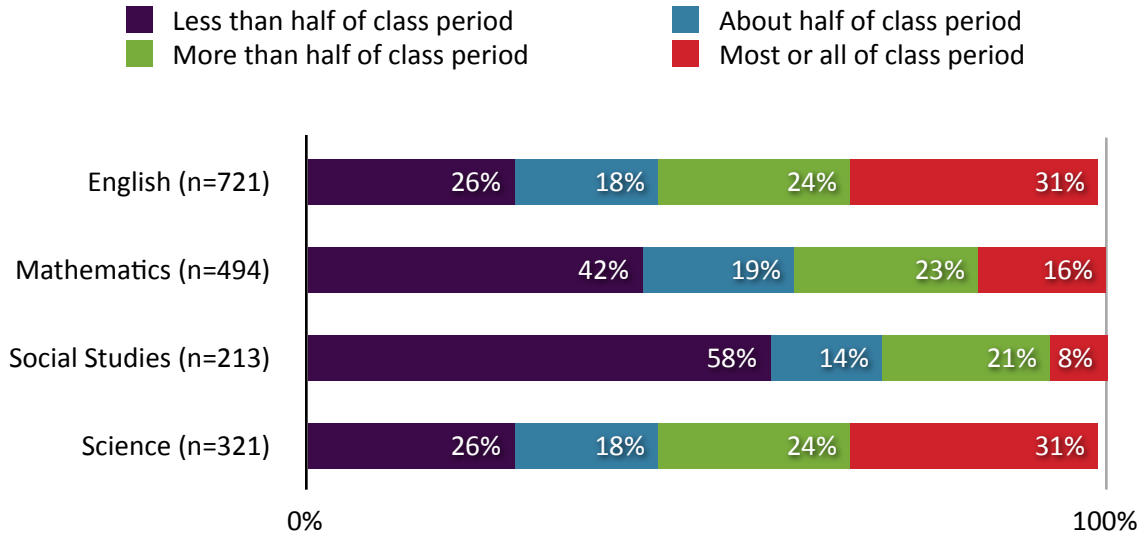
Responses were fairly similar for secondary school students among whom 44 percent reported that English was the subject during which they used technology the most. Seventeen percent selected "elective" and "other" as a response option on the secondary school survey. Most of those students were from Churchill County and indicated their elective computer course as the one during which they used technology the most.

On the Secondary Student Survey we asked students to indicate the frequency with which they use technology in their core subjects. In addition to the four response options related to the length of time technology is used during a typical class period, students were given the option to indicate that they did not use technology at all in a given subject. As shown in Table 28, below, English was the one subject for which most students reported using technology for any length of time. For example, the table shows that 1009 students submitted a response indicating their use of technology during English, and among those, 721 indicated that they use technology during English less than half, about half, more than half, or most/all of a given class period. The other students who responded to this question (n=288) chose the response "Technology not used during this class."

Table 28. Number of Secondary Students Who Reported Using Technology for Any Length of Time in Core Subject Areas

Subject	Total Responses	Used in Content Area	
		Frequency	Percent
English	1009	721	71%
Mathematics	935	494	53%
Social Studies	883	217	25%
Science	905	321	35%

Figure 8. Amount of Time Secondary Students Use Technology in Core Subjects



Students' Opinions about the Use of Technology

Elementary students responded to the same questions as junior high and high school students regarding their opinions about various statements related to the use of technology. However, rather than indicate their agreement with statements on a 4-point agree/disagree scale, they indicated "Yes," "A Little," or "No" in response to the statements. The data are presented in aggregate as students' response to their use of their respective grant-funded technology; however each district responded to the statements in reference to the technology that was purchased with grant funds (e.g., I like the way we use iPads, netbooks, laptops, etc.)

The statements to which the majority of elementary students responded "Yes," were "I want to use technology more in my class" (61%) and "I like the way we use technology in my classroom (59%). Very few students felt that they (19%) or their teachers (26%) needed to learn more about how to use the technology they had.

Impact

Table 29. Elementary Students' Opinions about the Use of Technology

Statement	Precent Responding "Yes"
I like the way we use technology in my classroom	59%
When we use technology I understand my teacher better	22%
I get to work with my classmates more when we use technology	28%
Using technology helps me work at my own pace	19%
I think I need to learn more about how to use technology	19%
I think my teacher needs to learn more about how to use technology	26%
I turn in better work when I get to use technology for my assignments	40%
I want my teacher to use technology more in my class	46%
I want to use technology more in my class	61%

There were two items on which there was a significant difference between the percentages of middle school/junior high students who agreed/strongly agreed compared to the percentage of high school students. While 43 percent of middle school students agreed or strongly agreed that they needed to learn more about how to use technology, only 35 percent of high school students felt the same way. Also, 76 percent of middle school/junior high students agreed or strongly agreed that they want to use technology more in their class, while 82 percent of high school students agreed or strongly agreed with the statement. Statistically, this is a significant difference.

Table 30. Secondary Students' Opinions about the Use of Technology

Statement	Precent Responding Agree/Strongly Agree
The way we use technology at my school keeps me interested in what we are learning.	82%
The way we use technology at my school helps me understand my teacher's lessons better.	76%
I get to work with my classmates more when we use technology	61%
Using technology helps me work at my own pace	38%
I feel like I need to learn more about how to use technology	40%
I feel my teacher needs to learn more about how to use technology	64%

Impact	
I turn in better work when I get to use technology for my assignments	71%
I want my teacher to use technology more in my class than they do right now	77%
I want to use technology more in my classes than I do right now	79%

Students' Rating of How Much They Use Technology

Students were asked to indicate if they felt their use of technology for various activities/ purposes was "too much," "just right," or "not enough." We asked students to respond to general statements about how much time they spend using the technology to gather information, create something, and share what they create. These statements were designed to triangulate the data gathered on the teacher survey that focused on students as consumers and developers of content.

When asked to rate how often and how long they get to use their respective grant-funded technology, 61 percent and 58 percent, respectively, of elementary students indicated that the amount of time was "just right." Over half of these students (55%) reported that the time they spend using technology to gather information was "just right;" 48 percent felt the time they had to create something was just right and 45 percent felt that the time they had to use technology to share what they created was "just right." Over half of the students (51%) also felt that the number of assignments that require them to use technology was "just right."

The percentage of secondary students who feel that their use of technology is "just right" when it comes to how often they get to use it, how long they get to use it, and how much time they use it to gather information, create something, and share what they create is much higher than that of elementary students. Additionally, while we know that secondary students would like to use technology more in their classes and that they want to do more technology projects, they are satisfied with the number of class assignments that require them to use technology. Secondary students did, however, indicate that they do not get enough homework assignments that require them to use technology (this question was not asked on the elementary student survey). Only 56 percent said that the number of homework assignments that required the use of technology was "just right." Comparatively, 96 percent of secondary students felt that the frequency with which they get to use technology is just right; 95 percent feel that they get to spend the right amount of time gathering information and sharing what they've created; 94 percent are satisfied with how long they get to use technology; and 93 percent are satisfied with how much time they use technology to create something.

Impact

Table 31. Students' Rating of Their Use of Technology

Statement about Technology Use	Precent Responding "Just Right"	
	Elementary	Secondary
How often you get to use technology	61%	96%
How long you get to use technology in class	57%	94%
How much time you spend using technology to gather information	55%	95%
How much time you spend using technology to create something	47%	93%
How much time you spend using technology to share what you've created	44%	95%
The number of class assignments that require you to use technology	50%	92%
The number of homework assignments that require you to use technology	-	56%

There were some differences in students' responses by grade level that were statistically significant. Seventy percent of middle school/junior high students compared to 75 percent of high school students feel that the amount of time they get to use technology is "just right." More high school students (60%) than middle school/junior high students (52%) are satisfied with the number of homework assignments they receive that require them to use technology.

Summary of Student Impact Data

One of the most interesting, if not surprising, findings from the Student Technology Survey is that girls are significantly more likely than boys to consider their technology skill level to be "average." The difference was particularly striking among secondary students, where we saw that 52 percent of boys, compared to 30 percent of girls self-rated their skill level as above average or advanced. We do not have any follow up data to put this finding in context, but it is a noteworthy finding that districts may want to explore further.

Another interesting finding from the survey is that most students do not feel that their teachers need to learn more about technology. When did not run the analysis to say for certain, but this finding may be correlated to the amount of time that teachers report using technology in the classroom. Perhaps students are seeing teachers' technology use with a greater frequency than in the past and they may be associating frequency of use with skill. Or it may be the case that teachers' tech skills have improved, even if they still have a need for more training on how to integrate technology into the curriculum. Evidence for this claim may be found in the results of the survey data in which 49 percent of teachers identified as "an intermediate user who needs

occasional support" and 20 percent identified as "an advanced user who does not need regular support."

Also of note are the data presented in Table 31. It is interesting that a much greater percentage of secondary students are satisfied with how much time the spend using technology to gather information, create something and share what they have created. The differences may be attributed to a bias of elementary school teachers wanting more control over students' computing experiences. The difference may also be attributed to the technologies that were available at various grade levels. More secondary students compared to elementary students had 1:1 laptops or handheld devices and in some districts new computers were used primarily for testing.

Part Four: Outcomes

Linking Grants to Implementation of Common Core State Standards

An absolute priority for the FY12-FY13 SETIF grant was for districts to utilize technology to support the implementation of the Common Core State Standards. In the Interim Report Wexford outlined how each district intended for its project to meet this priority. With the exception of Esmeralda County, that did not implement during the funding period, and Lander County for which we have no final implementation and impact data, districts, to varying degrees, met this priority. Districts that hit the mark include Clark County, with the development of online professional development modules specifically designed to support teachers' implementation of CCSS. Elko County's e4e project also developed two CCCS-focused courses, one mathematics, and one language arts. Elko County's teachers who participated in the 1:1 iPad project also participated in a series of face-to-face professional development sessions focused on utilizing the iPad to address the Common Core State Standards for English and mathematics. Teachers in Washoe County who participated in the ActivAcademy, had the opportunity to participate in professional development sessions focused on using the interactive whiteboard to address the CCSS. To some extent, Nye County, Washoe County, and White Pine County were able to utilize their grant-funded video/web conferencing equipment and software to provide CCSS-related professional development.

Districts such as Lyon County, Pershing County and Storey County, did not support teachers with formal professional development related to using their grant-funded devices to implement the Common Core State Standards, but teachers did explore the use of the devices for this purpose and project directors in all three districts are encouraged by the early uses of the devices in core content areas. For other districts, such as Carson City, Churchill, Douglas, Humboldt, and Mineral the SETIF grant served to build district-wide capacity to implement the online assessments associated with the Common Core State Standards.

Student Achievement Outcomes

We asked project directors to share any concerns they had about linking student achievement outcomes to the implementation of their technology grant. To a person, they all discussed the challenge and difficulty of attributing student achievement outcomes to technology investments as "the" variable that made a difference when schools are continuously involved in multiple interventions at the same time. As one project director shared, "We're having a hard time trying to isolate it to just the technology and include other factors like teacher instruction." So while she's reluctant to assign any gains specifically to the purchase of new computers, she is

confident in saying that "there's more instruction time and more opportunities for learning when the computers are reliable. We know that [students] can participate in certain instructional activities when the computers are reliable. I know that because we have new computers there are more instructional opportunities, and I know it's increasing instructional time and quality of instruction."

While Churchill County is one of the districts that provided MAPS Assessment data to demonstrate outcomes related to the grant, the project director shared that "our grant was really focused on capacity rather than specific student outcomes. I understand that these funds are tied to student outcomes, but our main problem in being able to benefit from this funding is that we had a capacity issue. We couldn't address other issues if we didn't address our capacity issues."

Clark County's project director considers linking the grant implementation to student outcomes "a real difficult connection" because the Modules were designed to be used as "just in time" support for teachers, but the implementation did not have an accountability component that required teachers to use the modules. As she explained, "Did we build math content capacity of these teachers? Yes, I'm absolutely confident of that. But does it mean that their test scores are going up? I don't know." The project director in Nye County commented that "there are a lot of things that influence student outcomes. To say the project by itself affected student outcomes, you couldn't say that. But to say that it improved PD and parent involvement activities, we can say that. It's unrealistic to say that this one thing would affect student achievement on its own. It's one of the puzzle pieces, and all of the pieces have to fit together." White Pine County's project director feels the same way, stating "It's hard to directly link because there's so many other things going on at the same time. I don't have a problem saying how we're using technology, but to say it was the one thing that made a difference, it's hard to do. We have multiple grants going on so which one made the difference?"

Other project directors expressed the difficulty of measuring outcomes when the grant implementation occurs in Year 2 of the grant. This is a concern that Wexford has expressed in earlier reports of the State Educational Technology Fund grant. In many cases, districts are only able to measure growth over one school year, which is not really sufficient evidence of the impact of the project. With all of these perspectives taken into consideration, some districts agreed to share their MAPS Assessment data for inclusion in this report. The reader is advised to consider any reported gains in student outcomes related to the grant implementation as tenuous at best.

OUTCOMES

Churchill County Nevada State Writing Assessment Data

Administering the 5th and 8th Grade Writing Assessment[1]

The 2012-2013 5th and 8th Grade Writing Exams were administered within the testing window of March 18-March 22. The administration of the exams changed significantly for the 2012-2013 school year, especially in that the Nevada Department of Education changed the intent of the exam from a summative to formative measure. This change drove the NDE to remove all state accountability for proficiency from the exam and to hold district/schools accountable only for student test participation. Based on new guidelines provided by the NDE, all 5th and 8th grade teachers and administrators were provided a professional development opportunity to learn about the new exam which included exploration of writing tasks, exemplars and evaluation guides. It is important to note that the greatest change in the evaluation of proficiency on the exams is that teachers scored their own students' writings rather than having an objective outside evaluation provided. Since the exams are to be used as formative tools, the NDE has made the recommendation that the exams not be used to produce proficiency rates. However, out of the need to have proficiency data for grants purposes, and in order to use the data at the teacher, school and district levels, proficiency data has been calculated, but should only be analyzed and utilized with a full understanding of the changes that occurred in the administration and scoring of the exams.

The students' papers were scored in each of the following five categories: Purpose and Focus, Organization, Elaboration of Evidence, Language and Vocabulary, and Conventions. The 8th grade showed areas of strength in Language and Vocabulary and Conventions when comparing performance scores in the five categories. The 5th grade showed strength in the areas of Purpose and Focus and Language and Vocabulary.

In 2011-2012, the 5th and 8th grade writing exams were scored using a holistic writing method. The tests were scored this year by giving each student an independent score for five categories of writing. These scores were then averaged, and each student with an average score of 2.5 or greater was considered proficient.

Churchill County's project director has explained the difficulty in making a comparison between tests with different foci (formative vs. summative) and scoring procedures (external evaluation vs. teacher scored); however, for the purposes of reporting outcome data, the change in the percentage of students at the 5th and 8th grade who tested proficient on the Writing

[1] The statements regarding the administration of the writing was taken verbatim from the summary provided by Churchill County School District's project director.

OUTCOMES

Assessment in 2012-13 compared to the percentage that tested proficient in 2011-12, is shown in Table 32, below. Viewed within the context of the problems associated with the comparison, Churchill County is reporting a 15 percent increase in the percentage of 5th grade students that tested proficient on the State Writing Assessment in 2013, compared to 2012. For 8th graders, the percent change between the percentage who tested proficient in 2012 compared to 2013 is 10 percent.

Table 32. Percentage Change in 5th and 8th Grade Students Testing Proficient on Writing Assessment

Grade	Percent Proficient		
	2011-2012	2012-2013	Percent Change
5th	40%	46%	15%
8th	61%	67%	10%

The number of 5th graders tested in 2012-13 was 231; the number of 8th graders tested in 2012-13 was 282

Humboldt County MAP Assessment and A+ Learning Link Data

MAP Assessment Data

The data presented in Table 33 and Table 36, on the following page, show the growth in reading and mathematics for 1st - 4th grade students in each of the district's elementary schools. The comparison is between student test scores in spring 2012 and spring 2013. The data show that across all grade levels, students' MAP scores improved to some degree. The greatest gains are among 1st and 3rd graders; at all three elementary schools, these cohorts showed double-digit gains in reading and mathematics achievement. Table 34 and Table 35 shows the corresponding grade-level percentile rank for each spring 2013 mean score in reading and mathematics. The percentile ranks are provided by the Northwest Evaluation Association, developers of the MAP Assessment. The data show that across elementary schools, in spring 2013 2nd grade students were in the 34th percentile for reading. That means their scores were higher than 34 percent of other 2nd graders who took the same reading assessment. Third graders ranged from the 38th to the 56th percentile and 4th graders ranged from the 38th to the 43rd percentile in reading.

Table 34 and Table 35 show, respectively, the reading and mathematics performance data for each of the elementary schools. Students' spring 2013 mathematics mean scores corresponded to the 25th to the 36th percentile for 2nd graders, 26th to 44th percentile for 3rd graders, and 38th to 47th percentile for 4th graders.

OUTCOMES

Table 33. Mean Growth from Spring 2012 to Spring 2013 for Humboldt County Elementary Schools by Grade Level

READING				
School	**Grade**	**Spring 2012 Mean Score**	**Spring 2013 Mean Score**	**Mean Growth**
Grass Valley ES	1	151.6	174.1	22.5
	2	179.8	184.4	5
	3	186.1	196.6	10.5
	4	197.1	203.1	6
Grammar ES	1	154.4	179.7	25.3
	2	178.9	186.3	7.4
	3	185.5	201.6	16.1
	4	198.5	208.2	9.7
Sonoma ES	1	155.9	174.3	21
	2	172	184.3	12.3
	3	187	198.5	11.5
	4	199.1	204	4.9

Table 34. Spring 2013 Mean Percentile Rank for Reading by School and Grade Level

Mean Percentile Rank			
Grade	**Grass Valley ES**	**Grammar ES**	**Sonoma ES**
2	34th	34th	34th
3	38th	56th	47th
4	38th	53rd	41st

Percentile Rank data acquired from Northwest Evaluation Association (NWEA) RIT Score to Percentile Rank Conversion Table (available online).

Table 35. Spring 2013 Mean Percentile Rank for Mathematics by School and Grade Level

Mean Percentile Rank			
Grade	**Grass Valley ES**	**Grammar ES**	**Sonoma ES**
2	36th	36th	25th
3	44th	26th	37th
4	38th	41st	47th

OUTCOMES

Table 36. Mean Growth in Mathematics from Spring 2012 to Spring 2013 for Humboldt County Elementary Schools by Grade Level

MATHEMATICS				
School	**Grade**	**Spring 2012 Mean Score**	**Spring 2013 Mean Score**	**Mean Growth**
Grass Valley ES	1	151.8	157.7	23.9
	2	180.2	187.8	7.6
	3	186.7	200.9	14.2
	4	201.7	207.1	6
Grammar ES	1	154.1	176.9	22.8
	2	179.5	187.3	7.8
	3	183.5	195.3	11.8
	4	198.5	208.2	9.7
Sonoma ES	1	157.2	177.9	20.7
	2	171.3	183.7	12.4
	3	185.8	199	13.2
	4	201.3	210.3	9

A+ LearningLinks

According to the A+ Learning website, "A+ LearningLink is a valid and reliable formative assessment that measures a student's existing knowledge, comprehension, and mastery of basic skills in language arts and mathematics for grades one through eight." The tests are designed to be administered in the fall and winter of each academic year and outcomes allow teachers to see progress that students have made and "forecast the likely outcome of state achievement tests." Third and fourth grade students in Humboldt County utilized Learning Links and the growth data for reading and mathematics are presented below. A+ Learning uses "lexiles" to measure growth in reading and "quantiles" to measure growth in mathematics. A lexile measure serves as an indication of a students' reading ability and quantiles are a measure of a student's mathematics ability. Knowing a student's lexile and quantile levels allows teachers to assign appropriately aligned reading and mathematics material to the student. Lexiles and quartiles are not test scores.

MetaMetrics, the company that developed the Quantile measure framework, provides quantile ranges for each grade level that represent the middle 50 percent of students based on tests such as the Learning Links assessment. The mid-year (or winter) lexile for 3rd graders is 300L-700L and for 4th graders it is 445L-810L. The mid-year quantile for 3rd graders is 375Q-605Q and 480Q-720Q for 4th graders.

OUTCOMES

Based on these grade level equivalents, the data in Table 37 and Table 38 show that 3rd grade students started the year off at grade level in reading and improved within the expected lexile range for 3rd grade reading ability. Fourth grade students started at the mid to high end of the lexile range for their grade level. At mid-year, 4th graders at Grammar Elementary tested at the highest lexile level (810L) for their grade level. In mathematics, 3rd graders at all three elementary students tested below the lowest quantile score (375Q) for their grade level, but they all improved by the mid-year assessment. Fourth graders tested on the low end of the quantile range for their grade level in the fall, but improved significantly by mid-year. Fourth graders at Grammar Elementary had exceptional growth in mathematics, testing at the highest end of the 4th grade quantile in the fall (719Q) and then testing at the highest end (810Q) of the 5th grade quantile (550Q-815Q) in winter 2013.

Table 37. 3rd and 4th Grade Students' 2012-2013 School Year Growth in Reading as Measured by Learning Links Formative Assessment

READING LEXILES						
School	**3rd Grade**			**4th Grade**		
	Fall 2012	**Winter 2013**	**Lexile Point Growth**	**Fall 2012**	**Winter 2013**	**Lexile Point Growth**
Green Valley ES	521	693	172	656	744	88
Grammar ES	542	662	120	719	810	91
Sonoma ES	537	664	127	702	782	80

Table 38. 3rd and 4th Grade Students' 2012-2013 School Year Growth in Mathematics as Measured by Learning Links Formative Assessment

MATHEMATICS QUANTILES						
School	**3rd Grade**			**4th Grade**		
	Fall 2012	**Winter 2013**	**Quantile Point Growth**	**Fall 2012**	**Winter 2013**	**Quantile Point Growth**
Green Valley ES	351	479	129	500	674	175
Grammar ES	299	498	199	564	779	215
Sonoma ES	322	464	143	504	697	193

Lyon County MAP Assessment and Nevada State Writing Assessment Data

Nevada State Writing Assessment

Fernley Intermediate School saw a 97 percent increase, over the previous year, in the percentage of students who met or exceeded the benchmark on the State Writing Assessment. In 2011-2012, only 34 percent of 5th graders met or exceeded the benchmark, compared to 67

percent who met or exceeded it in 2012-2013. The reader is cautioned to interpret these data within the same context with which the writing assessment data for Churchill County were presented. That is, with the awareness that a shift in how the state of Nevada approaches, administers, and scores the writing assessment changed during the 2012-2013 school year. It is certainly plausible that the effort teachers made to improve student writing, such as increasing the number of writing assignments students had, spending more time on the writing process, allowing students to make multiple revisions to their writing assignments, and using programs such as Criterion Writing while students had Internet access, contributed to the increase in students' writing assessment scores. However, the reader must also consider that some of the increase in the percentage of students meeting the benchmark may be attributable to the assessment transitioning from summative to formative and the associated differences in how the assessments were scored.

MAP Assessment Data

Comparing the fall 2012 to spring 2013 mean growth for 5th and 6th grade students, Fernley Intermediate School saw moderate gains in reading and mathematics on the MAP Assessments. In spring 2013, 61 percent of 5th graders and 64 percent of 6th graders met their growth projection for reading and 70 percent and 80 percent of 5th and 6th graders, respectively, met their growth target for mathematics. The mean growth score for 5th graders placed them at the 54th percentile in reading and the 63rd percentile in mathematics. This means, for example, that 5th graders' mean percentile rank in mathematics was greater than 63 percent of other 5th graders who took the same assessment. Mean growth is calculated as the difference between the mean scores of the assessments for which the comparison is being made. In this case, it is the difference between fall 2012 and spring 2013 mean scores. Students' mean growth and percent of students meeting their growth projection in reading in mathematics is shown in Table 39 and Table 40, on the following page. Table 41 shows the mean percentile rank for students in reading and mathematics by grade level.

Table 39. Mean Growth in Reading from Fall 2012 to Spring 2013 by Grade Level

READING				
Grade	**Fall 2012 Mean Score**	**Spring 2013 Mean Score**	**Mean Growth**	**% Meeting Growth Projection**
5	207.4	214	6.6	61%
6	213.6	219.7	6.1	64%

Table 40. Mean Growth in Mathematics from Fall 2012 to Spring 2013 by Grade Level

MATHEMATICS				
Grade	Fall 2012 Mean Score	Spring 2013 Mean Score	Mean Growth	% Meeting Growth Projection
5	211.1	222.4	11.3	70%
6	220.9	231.2	10.3	80%

Table 41. Spring 2013 Mean Percentile Rank for Reading and Mathematics by Grade Level

	Mean Percentile Rank	
Grade	Reading	Mathematics
5	54th	63rd
6	57th	66th

Percentile Rank data acquired from Northwest Evaluation Association (NWEA) RIT Score to Percentile Rank Conversion Table (available online).

Mineral County MAP Assessment Data

Mineral County provided MAP Assessment data for all tested grade levels because the grant-funded computers went into all three of its schools. As shown in Table 39 and Table 40, on the following page, the greatest mean growth, comparing spring 2012 to spring 2013, was among elementary students. First through fourth graders had double-digit mean growth in reading and mathematics; however, higher percentages of middle and high school students met their growth projections. For example, while third graders showed a mean growth of 15.4 points in reading and 63 percent met their growth projection for reading, 72 percent and 77 percent of 9th and 10th graders, respectively, met their growth projection in reading. A higher percentage of 9th and 10th graders also met their growth projects for mathematics compared to elementary and junior high students. Table 44 (on page 92) shows that the mean percentile ranks for students in reading that correspond with each grade level ranged from a low of 20th percentile in 5th grade to a high of 44th percentile in 7th grade. Students' mathematics scores corresponded with percentile ranks ranging from a low of 20th percentile in 2nd and 3rd grade to a high of 41st percentile in 6th grade.

OUTCOMES

Table 42. Mean Growth in Reading from Spring 2012 to Spring 2013 by Grade Level

READING				
Grade	**Spring 2012 Mean Score**	**Spring 2013 Mean Score**	**Mean Growth**	**% Meeting Growth Projection**
1	152.8	172.3	19.5	41%
2	171.1	181.1	10.0	36%
3	180.9	196.3	15.4	63%
4	196.3	200.6	4.3	32%
5	202.5	201.4	-1.1	26%
6	208.7	212.6	3.9	48%
7	215.8	218.1	2.3	42%
8	214.1	221.4	7.3	68%
9	213.7	222.3	8.6	72%
10	218.9	225.8	6.9	77%

Table 43. Mean Growth in Mathematics from Spring 2012 to Spring 2013 by Grade Level

MATHEMATICS				
Grade	**Spring 2012 Mean Score**	**Spring 2013 Mean Score**	**Mean Growth**	**% Meeting Growth Projection**
1	154.5	170.6	16.1	8%
2	168.7	180.6	11.9	37%
3	182.8	192.4	9.6	18%
4	193.6	203.9	10.3	54%
5	206.3	212.6	6.3	42%
6	215.3	220.5	5.2	52%
7	218.0	219.7	1.7	29%
8	223.9	228.7	4.8	58%
9	223.2	227.6	4.4	65%
10	225.8	230.8	5.0	72%

Table 44. Spring 2013 Mean Percentile Rank for Reading and Mathematics by Grade Level

	Mean Percentile Rank	
Grade	**Reading**	**Mathematics**
1	-	-
2	28th	20th
3	38th	20th
4	30th	29th
5	20th	34th
6	35th	41st
7	44th	30th
8	42nd	37th
9	38th	27th
10	43rd	27th

Percentile Rank data acquired from Northwest Evaluation Association (NWEA) RIT Score to Percentile Rank Conversion Table (available online).

Pershing County MAP Assessment Data

The data in Table 45, below, show the percentage of students in grades one through three who had performance growth in reading and mathematics. The growth percentage is the combined percentage of students who had "above typical growth" and were either at or above their project proficiency or below their projected proficiency. The percent proficient includes the percentage of students who were either above or below typical growth, but at or above project proficiency. Twenty nine percent of 2nd graders and 25 percent of 3rd graders fell into the category of "above typical growth, at or above projected proficiency" in reading. In mathematics, 48 percent of 2nd graders and 35 percent of 3rd graders fell into "above typical growth, at or above projected proficiency" category.

Table 45. Pershing County Lovelock Elementary School Fall 2012 to Spring 2013 Growth Percentage and Percent Proficient in Reading and Mathematics by Grade Level

	READING		MATHEMATICS	
Grade	**% Growth**	**% Proficient**	**% Growth**	**% Proficient**
1	62.5%	-	55.3%	-
2	52.1%	50%	60.4%	70.0%
3	37.5%	48.8%	50%	55.8%